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FIRE IN MY BACKYARD:
PLACE MEANINGS AND LANDOWNER VIEWS ON FIRE AND FUELS MANAGEMENT
ON THE KOOTENAI NATIONAL FOREST, MONTANA

By

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B. S. University of Delaware, Newark, 2003

Thesis

presented in partial fulfillment of the requirements
for the degree of

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in Resource Conservation

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Fire in My Backyard: Place Meanings and Landowner Views on Fire and Fuels Management on the Kootenai National Forest, Montana

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Federal land management agencies are currently striving to become more democratic and open to citizen participation in decision-making. Recently, the build-up of hazardous forest fuels and ensuing increase in high-intensity wildland fire events across the western U.S. has led to growing interest in integrating local communities and their views and interests into the planning process for fuel reductions projects. One way to investigate local perspectives and make them available to local fire management officers is through qualitative research into relationship to place and preferences for proposed management actions using in-depth interviews with landowners residing in the wildland-urban interface.

This study investigated the ways in which place meanings can inform decisions about hazardous fuels reduction on the Kootenai National Forest in northwestern Montana. I also explored the utility of representing meanings spatially for integration with typical GIS data. The hope was that if people's relationships to place and their preferences for management actions could be represented spatially, that knowledge might allow us to understand which management alternatives are deemed appropriate for use in specific places. Such knowledge could aid managers in anticipating which management actions will be met with contention or approval.

Findings indicate that landowners' relationships to places are connected to their views on fire and fuels management. However, interview and mapping data also indicate that forest landowners typically lack specific preferences for fire and fuel management in specific locations on the landscape. Instead landowners seem to think about fire and fuel management at a landscape level. Landscape level preferences for fire and fuels managements were related to different views about the Cabinets as a whole, expressed through landscape narratives. The narratives created and invoked by landowners describe the region as either a working or a natural landscape. These narratives are woven from fundamental ideas that people hold about the relationship between humans and nature and include alternate perspectives on the inherent nature of wildland fire, forest aesthetics, and what constitutes "good stewardship" and "proper" forest management. Findings suggest that relationship to place may not always be geographically embedded in special places, as some place research assumes. Instead, place relationships may be situated at multiple, nested scales beginning with a particular geographical locale and expanding out to a much larger socio-cultural context.

Dedication

For my grandmother, Virginia Grimm, a constant source of strength and inspiration.

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Chapter 1 – Introduction

Like a lot of people that have been raised here, I have a really heavy sense of place. When I was in school, I could get to Sandpoint, and we'd roll down the windows in the car, and I could smell home. You know, it's just "mmm." So I have a deep sense of place, and the proximity of the public's forest to my place, not just my 20 [acres], this is just where I live. But my home is the Kootenai, and the impact our choices have on that is the biggest deal. (L6)

Local Communities and Forest Management

Across many academic and professional disciplines there is a growing interest in the integration of local communities into planning and decision-making processes. This is especially true of natural resource management (NRM) and environmental issues (Fischer 2000). The interest in local communities is quite salient in the West with its high percentage of federal lands and history of heavy resource dependence (Langston 2005). In this thesis I focus on a rural, forest community in the northern Rocky Mountains. Therefore, the majority of the discussion herein is focused on the particular context of forest communities.

Government officials, scientists, managers, policy experts, and the general public alike increasingly recognize that the management of public lands affects local communities. Why is this? One reason is the close proximity of many local communities to public lands. For example, Danks found that because of their proximity to wildlands local residents in forest communities are disproportionately affected by decisions regarding the management of wildland fire on federal lands (Danks 2001). Although federal lands may also be managed for distant stakeholders (McCloskey 1999), local communities often have a much more vested interest in their management because the consequences of such decisions resound throughout the life of the community.

Consequences of management decisions have both material and social effects for local communities. Material concerns include livelihood, availability of fire wood and other forest products, and tourism operations (Lee et al. 1990). Local communities are affected by management decisions in intangible ways as well. People have emotional, social, and symbolic relationships with the land and forests, and management actions have the potential to alter these relationships (Kruger 2003). A 1946 study by Kaufman and Kaufman demonstrates an early attention to both the material and social effects of forest management. They suggested that federal management of national forests in Lincoln County, Montana needed to be reformed in order to provide timber resources, steady work, and “community stability” for the long-term survival of the forest communities of Troy and Libby (Kaufman & Kaufman 1990). Because of the varied ways in which local communities are impacted by management of natural resources, it makes sense to consider the needs and interests of the community most affected by management decisions. However, this local perspective is not always represented.

In many local communities conflict over public lands and natural resources has become an almost ingrained aspect of community life (Langston 2005). Some conflict that arises from community disagreement over how an agency proposes to manage public lands can lead to intractable disputes (Kellert et al. 2000). The interest in an enhanced role for local communities in NRM is born of a desire to move beyond such intractable debates regarding environmental issues (Nie 2003). The expert-oriented, scientific model of management that has prevailed in federal resource agencies is unable to accomplish this (Brunner et al. 2005). Management that accomplishes tangible results by allowing experts and people of the local communities to work and learn together may be one way forward. I now move to an examination of a natural

resources arena where this approach has been taken on by managers and communities: wildland fire management and hazardous fuel reductions.

The Challenge of Fire

Currently, interest in fire and fuel challenges amongst National Forest managers and local communities is growing. Almost a century of fire suppression by the U.S. Forest Service coupled with unanticipated climatic changes has created a system of national forests laden with high levels of hazardous forest fuels. When wildfires do occur, they are often bigger and more severe than historic fire regimes with heightened consequences (Agee 1993; Arno & Allison-Bunnell 2002; Johnson & Miyanishi 2001). One consequence is risk to property, public and private. A second repercussion is the threat to human lives, fire fighters and citizens alike. Additionally, the cost of fighting wildfires has increased dramatically. According to the Government Accountability Office, fire suppression costs from 2000 to 2004 more than doubled from the five years previous to more than \$1.3 billion annually (GAO 2006, 2007). These challenges are exacerbated by the influx of amenity migrants¹ to the Rockies. As people increasingly build homes in the wildland-urban interface² (WUI), protection of private property becomes even more expensive (Frentz et al. 2004).

¹ Amenity migrants are typically new landowners, who may or may not live in the area year-round, who buy land in order to build second homes for retirement or vacation work or in order to work from a remote location.

² The WUI is defined as the “area where structures and other human development meet or intermingle with undeveloped wildlands” (USDA/USDI 2000).

In addition to threats to life and property, local concerns include diminished air quality from smoke and ash (Halvorson 2002). Smoke can impair visibility, create health problems, and negatively affect perceived quality of life (Hardy et al. 2001). Furthermore, wildland fire can severely reduce the timber supply to local logging interests either because the timber that is left is unusable or salvage logging is restricted. Wildfire also may impact the aesthetics of the forest for years and discourage tourism, hurting the local economy (USDA/USDI 2000).

In areas with designated wilderness, an interest in allowing natural ignitions to burn inside the wilderness area (Hendee & Dawson 2002) further complicates fire management. From an ecosystem management perspective there exists a desire to restore “natural” (pre-European contact) conditions to fire-dependent ecosystems such as ponderosa pine forests in the Northern Rockies (Agee 1993; Arno & Allison-Bunnell 2002; Johnson & Miyanishi 2001). The ecological benefits of allowing natural ignitions to burn are increasingly recognized, but a variety of barriers prevent most wilderness managers from fully realizing the benefits of wildland fire use (Hendee & Dawson 2002). The proximity of human development to a wilderness area may foster opposition to wilderness fire because of the risk that the fire will escape the wilderness and threaten lives and property. However, if managers reduce hazardous fuels on non-wilderness lands to mitigate risk to human life and property, then members of the local community and managers alike may be more supportive of allowing wilderness fires to burn naturally. This makes understanding the views on fire and fuels in communities close to wilderness particularly important.

In 2000, following a summer of devastating wildland fires across the western U.S., the National Fire Plan was published. It was a guide to show federal land agencies, such as the

Forest Service, how to “respond to...severe fires, reduce the impacts of these wildland fires on rural communities, [and] reduce immediate hazards to communities in the wildland-urban interface” (USDA/USDI 2000: 1). The plan suggested several avenues for improvement to the process of planning for fire and fuel reductions. These suggestions included two mandates directly aimed at increasing local participation:

Invest in Projects to Reduce Fire Risk.

... establish a collaborative effort to expedite and expand landscape-level fuel treatments. Important dimensions of this effort include: Developing a locally led, coordinated effort ... of integrated fuels treatment teams...facilitate and encourage public participation, and monitor and evaluate project implementation. Each team will work closely with local communities to identify the best fit for each community.

Work Directly with Communities.

Working with local communities is a critical element in restoring damaged landscapes and reducing fire hazards near homes and communities. To accomplish this, the Departments recommend: 1) Expand[ing] the participation of local communities in efforts to reduce fire hazards... 2) Learning from the public. Encourage grass roots ideas and solutions best suited to local communities for reducing wildfire risk. Expand outreach and education to homeowners and communities about fire prevention...

It is evident from these mandates that achieving community protection through hazardous fuel reductions is of utmost importance to federal land agencies. Collaboration, place-based solutions, and mutual learning between managers and stakeholders are stressed. However, the challenge of implementing these guidelines is left to each community and local fire management team.

Libby, Montana is a local community currently negotiating these issues. The Kootenai National Forest (KNF) surrounds the community, and the Cabinet Mountains Wilderness (CMW) rise sharply at the KNF’s southern end. Within miles of Libby to the southwest, the

Cabinet Range descends steeply into heavily forested foothills. This landscape³ includes public lands that range from wilderness and roadless areas to heavily logged national forest units. These lands, uninhabited in recent times, gradually phase into rural residential development with some isolated homes completely ensconced by the dense national forest. Local views on fire and fuels vary considerably, and managers seek to strike a balance among all users and groups.

Lincoln County, with Libby as the county seat and geographic center, has played host to intense conflict, sometimes verging on violent, over management of public lands in the last few decades. Historically, the region has been described as the “timber basket” of Montana due to its abundant yield of timber as a result of lower elevation, milder winters, and wetter weather. In recent history the Kootenai National Forest had several lumber mills operating with an output of upwards of several hundred million boardfeet per year. Additionally, many ore mines (predominantly precious metals and vermiculite asbestos) previously operated within Lincoln County. Most families in the Libby depended on resource extraction industries for their livelihood and more. The mills and mines funded community events, schools, clinics, and parks. However, beginning in the late 1960s and ‘70s the “back to the land” movement brought new people (frequently called “hippies” or environmentalists) with different ideas to the area. At the same time federal environmental laws were changing and bringing new standards for the management of public lands. The 1970s through the 1990s were a period of extreme conflict between what longtime local perceived as traditional values and livelihoods and new “outsider”

³ Grieder and Garkovich (1994) define landscape as the symbolic environments that we create by bestowing meaning on nature and the environment. When I refer to landscape, it includes both the biophysical and socially constructed components of the Cabinet Mountains landscape.

ideas about multiple-use land and resource management and environmental preservation.

Although these tensions, typified by contentious public comment meetings and litigation against the Forest Service have not entirely disappeared, they have eased in the past decade as the region has diversified both demographically and economically. Additionally, several processes that can be described as collaboration or community-based natural resource management have been implemented to bring historically conflicted interest groups to the table and works things out in a more conciliatory manner. One such group, the Lincoln County Coalition, even declares on its widely-distributed literature that, “It’s a new day in Lincoln County.” A day that they hope will result in greater agreement and cooperation between all parties. Another group that is involved in a collaborative process is the Kootenai Forest Stakeholders Coalition (KFSC). Comprised of a wide variety of stakeholder groups from around the county, the KFSC is focused on achieving consensus support for fuel reduction projects in the WUI. While a wide variety of interests and interest groups are represented in the KFSC, the voice of landowners living in the wildland-urban interface is absent. Although many participants in the Coalition may be forest landowners, no one speaks directly for this group.

This research project is an initial attempt to bring those people and their perspectives into the conversation. The collaborative process is just one of many promising tools to integrate local perspectives into forest management. However, before we can fully realize the potential of such tools, there is much we need to learn about how forest landowners relate to the surrounding landscape, especially near wilderness areas, in order to better understand their underlying views on forest and fire management.

Study Objectives

I undertook this study based on the conceptual framework of relationship to place. The difficult issue of fire and fuels requires an ecosystem-level management strategy. Volumes of research have been produced concerning the economic and ecological aspects of fire (Agee 1993; Arno & Allison-Bunnell 2002; Johnson & Miyanishi 2001). By comparison much less research has focused on the social and cultural aspects of this issue. Previous research (Gunderson et al. 2004; Knotek et al. 2006) has asserted a link between community-landscape relationships and viewpoints on fire and fuels, but did not focus primarily on landowners. Additionally, Williams and Stewart (1998) argue that sense of place has the potential to incorporate humans into ecosystem management, “treating people as a rightful part of ecosystems” (18). Understanding relationship to place may enable managers to anticipate, identify, and respond to the bonds between people and the landscape (Williams & Stewart 1998). This capacity should prove useful as fire management moves to a more genuine ecosystem-scale focus.

An expanded focus on how home/landowners relate to place provided the opportunity to understand this group in much more depth than previous work. The reasons for this focus were multiple. Management of fuels and fire on the KNF land has a direct effect on adjacent private lands and landowners. Therefore, landowners may have strong views about the management of fire and fuels (Nelson et al. 2003) which can influence the attainment of mutually acceptable fuel reduction strategies (Nelson et al. 2005; G. F. Winter et al. 2000). For example during the notice and comment period for a recent completed fuel reduction project, Libby District Ranger Malcolm Edwards (2007) discovered many concerns among landowners regarding the lower

density of trees left by fuel reductions. One concern was the loss of privacy previously afforded by denser forest. Another was the safety hazard created by the stray bullets of hunters with fewer trees to intercept them. While the mere fact of owning land in the WUI does not give landowners undue influence on management decisions, the Forest Service prefers to have their support for fuel treatments before going forward (Edwards 2007) assert the necessity of understanding forest landowners for fire managers, saying:

The opinions of WUI homeowners, those who face the possibility of losing their lives, homes, and belongings in a wildfire, influence the political environment confronting managers charged with achieving a balance between allowing natural processes to occur and protecting homes and lives. (74)

This research was a chance to explore what contributes to landowner support of fire and fuels management. Finally, landowners were generally under-represented in the collaborative process ongoing in Lincoln County. These research results will potentially make their views and interests known to the KFSC and the Forest Service.

One potential way for researchers to provide useful information to managers about landscape relationships and perspectives on fire and fuels is to create geographic information systems (GIS) maps of social data. Managers make many decisions based on maps that typically include ecological and biophysical data. We know that people's relationships with the landscape have an essential component of spatiality. Place is, first and foremost, space endowed with meaning (Tuan 1977). Yet the spatial element of people's relationships to places has not been mapped in a definitive way. If psycho-social constructs such as views and interests regarding the landscape can be mapped in a meaningful way, this will be useful to managers.

To sum up, here is what I specifically seek to understand:

1) If and how people's relationships with the landscape as a whole and with particular places are related to views on fire and fuels management on NF land. This knowledge might help us understand which fuel treatments and fire management alternatives are deemed appropriate or inappropriate for use and why. Conflict could then at least be anticipated, if not reduced, prior to proposing a new management action.

2) Whether or not we can understand the spatial component of those relationships and views through a computer-based mapping exercise. If mapping adds to our understanding, then it can be used to inform managers of community views and interests in a familiar format. This mapping exercise could potentially be used in other contexts.

Research Questions

If and how are forest landowner relationships to place connected to perspectives on wildland fire and fuels management? What can we learn by mapping these relationships and perspectives?

Overall the purpose of this research is to enhance the dialogue between local communities, forest managers, and researchers about the relationships between landowners and the forest landscape as linked to fire/fuels management perspectives. Using mapping as a tool, I seek to make these relationships available for integration into ecosystem management and decisions regarding wildland fire and hazardous fuel treatments at the interface of human development and wildlands. Specific objectives of this project are to:

1. Explore individual and community relationships to place regarding the forested landscape of the eastern face of the Cabinet Mountains range as expressed by forest landowners adjacent to the Kootenai National Forest.

2. Investigate landowners' perceptions of the application of hazardous fuel reduction treatments on the Cabinet Face.
3. Engage interviewees in a computer-based exercise to map the range, spatial distribution, and intensity of relationships to place as well as views and interests concerning fire and fuel treatments on the Cabinet Face.
4. Scrutinize the utility of this mapping exercise and its ability to represent social data in a meaningful way.
5. Examine the relationship, if any, between these place relationships and views on wildland fires and fuel treatments that have already occurred or may occur in the future.

Thesis Organization

This thesis is organized into chapters that build from the fundamental concepts and goals presented in this chapter. Chapter two reviews the previous literature that contributes to my theoretical framework of relationship to place. In addition to the sense of place literature, publications on wildland fire in the United States and the development of participatory mapping are also reviewed. Chapter three lays out my methodological approach to this research with an emphasis on the qualitative methods chosen to guide data collection. It also has an expanded focus on the innovative mapping technique that was developed specifically for this study. These three chapters delineate the basis for this research and my rationale beyond its design and implementation.

The last three chapters present the findings from this study along with the researcher's interpretation of their significance. Chapters four and five are the main results chapters. Chapter four focuses on those findings which pertain to what I learned about the spatiality and scale of

place meanings and fire and fuels management preferences. Chapter five goes into greater depth about the place meanings that were most strongly linked to fire and fuel management perspectives among landowners in this study. Chapter six concludes this thesis with a reiteration of what was learned and goes on to suggest broader implications of my findings. The conclusion ends with suggestions for future research.

Chapter 2 - Review of Literature

This research builds on a forestructure of knowledge provided by the relational and socio-political understanding of place. Place is an appropriate theoretical framework for understanding views on fire and fuels because it recognizes people as intrinsic elements of an ecosystem. The problem of managing fire and fuels is situated at the ecosystem level, and managers must treat human views and perspectives as another element of the fire equation along with traditionally accepted biophysical and other-than-human factors. Of course, the place paradigm is not the only choice possible to study this topic. Other theoretical paradigms, such as political ecology or attitude theory, could also offer valuable insights and guide my research. I choose to build on the foundation of place because of its attention to the emergent and holistic nature of human beliefs, meanings, ideas, values, and traditions. In the realm of fire and fuels management, issues are so place-specific that it is crucial for a researcher to remain attentive to the unique complexity of each particular local setting and how that may influence decisions.

I begin with a brief look at the current state of place research. Then I outline the relational approach to studying place in natural resource management. Next, I discuss how the socio-political approach builds on the relational. I move on to constructing the conceptual framework of relationship to place drawing from these two approaches. I conclude this section with a review of the literature relevant to mapping social science data.

Place

Academic study on place first emerged in the 1960's and 1970's from the work of humanistic geographers such as Yi-Fu Tuan. These geographers essentially conceived of place

as physical space that has become endowed with cultural, symbolic, and emotional meanings through human interactions in and experience with a particular place (Relph 1985; Tuan 1977). Since then, a wide spectrum of research traditions has taken up place research (M.E. Patterson & Williams 2005). These approaches have focused on a variety of concepts including sense of place, place attachment, *genius loci*, topophilia, rootedness, placelessness, place meanings, politics of place, and relationship to place. This multiplicity of superficially similar terminology has created tension between the different approaches to place (Williams 2006) and led some scientists to call for standardization of place research (Altman & Low 1992; Stedman 2003). However, Williams and Patterson (2006) suggest that this diversity of thought should be retained because the epistemological and ontological goals will differ between researchers. Furthermore, reflexive critique of, rather than clustering into defensive camps around the various approaches fosters sound research (Williams & Patterson 2006). Despite divergent disciplinary roots, commonality exists among the various place concepts. All place research seeks to holistically understand the ways in which individuals and groups relate to their specific place (Williams & Stewart 1998). I draw primarily on the literature pertaining to the use of place concepts in natural resource management (NRM).

Relational Approach

The relational approach is a starting point to explore place because it is antecedent to all to other approaches in NRM. According to Williams, the relational approach to place shows us that:

...any given place embodies some particular constellation of past human events and meanings in current meanings and relationships. This history variously includes the unique past experience of single individuals, the shared and contested cultural histories of various social groups, and often incorporates some version of natural history as part of that human history. (Williams & Patterson 2006)

The interwoven components of place are 1) personal experiences, 2) social histories, and 3) natural history. The broad conception of a constellation of beliefs, values, meanings, traditions and culture is sometimes called relationship to place (Michael E. Patterson et al. 2006). Looking at the mélange of ways in which people relate to place moves research past the narrow, commoditized view of resources common to NRM in the past (Williams et al. 1992). However, the relational approach does not completely reject the notion that material concerns also contribute to place. For example, Christensen et al. (2006) found that relationships to place of people in Yakutat, Alaska consisted of psycho-social elements as well as local culture, livelihood activities, management history, and history of use. This approach recognizes that a broad array of meanings exists for a particular place, not just the commodity attributes.

The building blocks of a relationship to place are place meanings. Place meanings can include beliefs, values, symbols, images, memories, history and more about a specific place. The relational approach, with its focus on meanings, recognizes the “socio-cultural nature of (often intangible) ideas, symbols, beliefs, and values that characterize the relationship between the person or group and a place” (Williams 2006:13-14). Place meanings can be developed by individuals and social groups. A fisherman who prefers a particular stream because he had particularly memorable trip there with his family has an individual place meaning for that stream. A community that regards a particular forest as a working landscape and values the area for livelihood based on shared values and history is an example of a social place meaning. Place

meanings are individual threads in the tapestry of a relationship to place, intricate and complex. The relational approach draws attention to the existence of place meanings and demonstrates how they are malleable, diverse, and continuously created (Williams 2006).

Socio-political Approach

The main contribution of the socio-political approach is that it focuses on not only the shared meanings for place but the meanings that people contest as well. Initially, research on the politics of place focused on the view that a shared place is common ground which serves as the starting point for collaborative political dialogue (Kemmis 1990). The more recent recognition that multiple relationships are typically associated with a particular place is an important distinction (Kruger & Shannon 2000). Even in rural communities, often stereotyped as homogeneous, there are multiple, diverse, and sometimes competing views (Belsky 2002; DuPruis & Vandergeest 1996). Other authors (Cheng et al. 2003; Stokowski 2002; Yung et al. 2003) argue that contested meanings can be politically irreconcilable, and therefore, they perpetuate conflict.

The socio-political approach contends that drivers of these conflicts can be tangible interests, not just intangible social constructs. Proponents of the socio-political approach point out that material factors, such as livelihood, are also a source of contested meanings. Yung (2003) states:

A focus on place moves forest policy and management beyond the narrow confines of economic research by acknowledging the multiple relationships that encompass livelihood and economics, and values, symbols, emotions, history, and identity. (856)

For example, one resident of a rural mining town might “see” in a mountain a source of potential income, meaningful employment, and security for her family. Another resident might “see” a place removed from human development, valuable for its wildlife habitat, vegetation, and as a component of a healthy watershed that provides clean water to drink. Clearly common ground exists between these two people; the mountain is place of significance. Yet their relationships to the mountain landscape could not be more different. The Socio-political approach asserts the legitimacy of both. If the relational approach moved a little too far towards the psycho-social focus, the socio-political approach corrects the balance. It invigorates place research with a renewed focus on the real-life material concerns of local people.

Why are community heterogeneity, material concerns, and contested meanings important? The socio-political approach to place shows that meanings are not just the intangible background noise of life; meanings are transformed into action (Yung et al. 2003). According to Yung, “understanding the multiple meanings of place and how place is contested is important to forest management because place meanings are often connected to ideas about what is and is not legitimate use” (857) For example, in Libby, I anticipate the relationships of forest landowners have with the Cabinet landscape will have some connection to which alternatives for fire and fuel management on the National Forest lands they prefer. The socio-political approach elucidates the interplay between all these elements recognizing that economy and livelihood are very important to the relationships to place for people.

Conceptual Framework – Relationship to Place

The goals of my project have led me to adopt elements of both relational and socio-political approaches (Williams 2006) to place theory in an overarching concept referred to as

“relationship to place” (RTP). The two approaches complement each other because both focus on place meanings as an essential component. In fact the socio-political approach really expands upon the framework erected by the relational approach. This framework steers my inquiry towards a holistic understanding of people’s relationships to place that is responsive to emergent meanings and values and attentive to shared and contested meanings. The relational approach demonstrates that the meanings individuals and groups create and maintain for places are socially and culturally constructed. The socio-political approach shows us that contested meanings drive the political process within a community and that material concerns contribute to place meanings. Figure 1. illustrates my conception of the interaction of these approaches with the biophysical space and its tangible attributes.

In short, I am defining relationship to place as inclusive of many factors, material and psycho-social, that contribute to the way a person or group constructs their life and ideas related to a particular place. This concept of relationship to place is summarized best by Patterson (2006: 9) as:

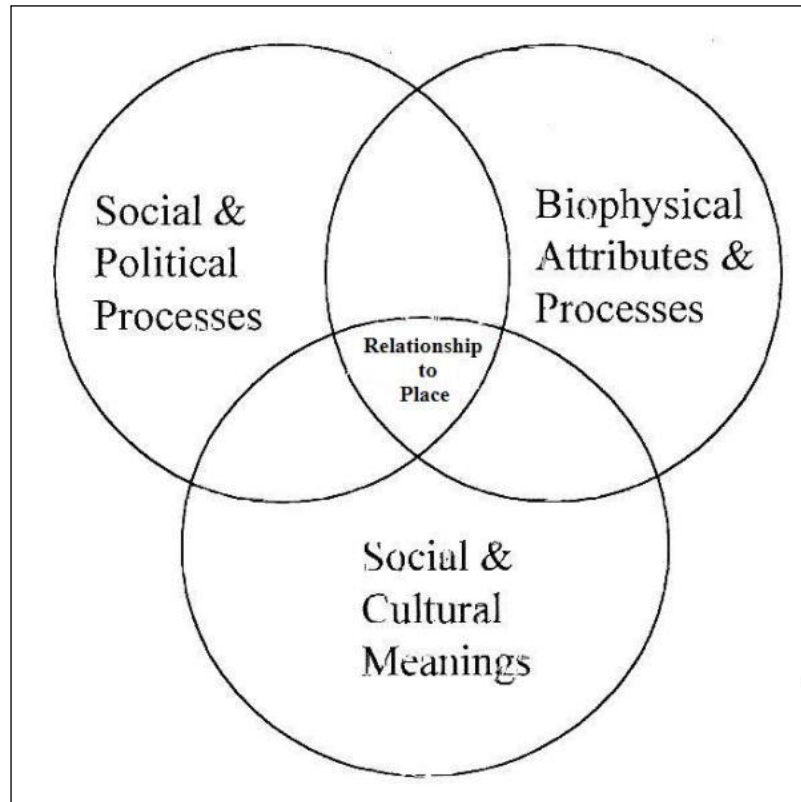
... a basis for developing an understanding of noneconomic, emotional, and symbolic dimensions of forest dependence. Relationship to place is conceptualized as a holistic concept that encompasses dimensions such as nature of emotional place bonds, how life is organized around place, access to place, social construction of place, experience of place, place ethics, place-based activities, relationships and conflicts in place, etc.

In a study of recreational jet boaters, Patterson found that emotional bonds, organization of life to accommodate their interest in boating, access to the river, and social construction of the place all contributed to a relationship with place. Any one of these factors alone gives an incomplete understanding of why someone would sacrifice income and modern conveniences to pursue jet

boating with a passion. However, when these factors are examined together, the holistic pattern clarifies an over-arching relationship to a place that drives a passion in this community of interest and may even influence the course of their life.

Drawing from the relational and socio-political approaches to place will be useful in my exploration of how place meanings are connected to views on fire and fuel management. For example, experience with or knowledge of a clearcut or burned area may impact the meanings people assign to the landscape. Shared experiences and community identity might also influence meaning and views on fire and fuel. For instance, the Cabinet Mountains range is an established symbol for the town of Libby and a familiar backdrop of life. Because a scenic view of the range is important to this community, people may be resistant to management actions that change the aesthetic appearance of the face's thickly forested slopes. Finally, the social and political changes occurring in this community might affect place meanings. Libby has a long history as a timber town, but its economy is gradually diversifying, and amenity migrants are purchasing land in the area. There may be political conflicts between long-time landowners comfortable with logging near their homes and urban newcomers who view logging as antithetical to their experience of nature or Montana. The RTP framework allows me to see these relationships through a lens which draws attention to commonality and difference, the biophysical and metaphysical, and opens me as a researcher to the interconnected nature of these phenomena.

Figure 2.1 Relationship to Place (adapted from Cheng et. al.)



Special Places

The theoretical framework of relationship to place guided my thinking about the complex sets of meanings, beliefs, and memories that comprise the bond between people and their environment. The construct of “special places” is a separate, but related, theoretical framework within the broad body of place literature. Research into special places is attentive to the spatiality of place relationships, which makes it well suited this research with its GIS mapping component. In designing the mapping exercise to be as open as possible to participant input, I asked landowners to mark their important or special places on the map. The term “special places” is useful for communication between place researcher and lay participants. It is intuitively understood by the layperson unfamiliar with the multiplicity of place terms and concepts. If asked to choose their special places on a map and talk about why those places are special, most people will understand what a researcher is asking without a lot of explanation. They may go on to describe things about their special place that a social scientist could label “meanings, values, experiences, and memories” (Schroeder 2002). But if one asked a study participant with no social science background “to show you where their place meanings are embedded on the landscape, one might get some strange looks. In a way, it is almost shorthand for sense of place, place meanings, place attachment, and so on. The term contains all these ideas yet remains non-technical and available to the layperson.

“Special places” as a separate topic of research within social science and place theory is still growing as a field. As a basis for empirical research, early use of the term and its conceptual definitions began with a series of articles by Schroeder (Schroeder 1996a, 2000, 1996b). In these articles the author relies exclusively on this understood definition of special places, never

actually defining what he means by the term, even though it used in the title of both his survey instrument and publication. Eventually, Schroeder develops a more sophisticated theoretical framework for special places and begins to explore its implications for natural resource management:

When people have highly valued aesthetic and emotional experiences in specific places...these places...take on particular importance for them and become "special places." People become attached to such places. (Schroeder 2002)

We see that Schroeder conceives of special places as “particular geographic areas” or “specific places” (2002). He also eventually pushed special places in the wider world of management with his ideas about how special places can be employed in planning

...managers should make a special effort to listen to residents and visitors to learn what characteristics of special places are important...adapting plans as much as possible to protect the qualities that make these places special. (Schroeder 2004)

Other recreation researchers began to delve into the importance of special places to management as well, adding further insights into the topic. In a wide-reaching study of recreational users of four sites across Utah, Eisenhauer et. al. (2000) found that attachments to special places can lead to “heightened levels of concern” about management activities at those places. They concluded that management policies which disregard the attachment of users to special places and are based on the substitutability of these places will not be acceptable to users (Eisenhauer et al. 2000). Moore and Scott (2003) reiterated the importance of managing for special places to improve user satisfaction and community-agency relations. These authors went on to suggest some key directions for future research as special places come to be studied in settings beyond recreation management. They propose that research should be attentive to multi-dimensional attachment to

special places, the origins of these attachments, and that special places might be subject to attachment at varying scales. To this end, the authors suggest the application of GIS and cognitive mapping techniques to the study of special places (Moore & Scott 2003).

The topic of special places serves as a useful tool for bridging linguistic gaps between researcher and study subjects and grounding discussions of place in the physical world. Place is “space endowed with meaning.” If relationship to place is primarily focused on the meanings of place to people, then the construct of special places returns the “space” to its rightful place in the equation. Overall, the insights garnered from special places literature aided my own research greatly as I attempted to capture the spatiality of place relationships among forest landowners in a map format.

Mapping Psychosocial Data

According to Williams and Patterson (1996) the initial impetus behind place-based research was to embed social values back into their “meaning-filled spatial (and temporal) context” (508). It then follows this social data is located in space and might be mapped similar to other spatial-ecological data in GIS (Williams 1995). Williams notes that progress in mapping social data must focus on cultural/symbolic and individual/expressive meanings because of their important role in conflicts over management of natural resources.

Within the body of literature relating to place, some authors have been calling for increased exploration into mapping meanings for some time. If done correctly, the promise of mapping meanings is bountiful. It may enable managers to visually decipher what meanings individuals and groups assign to the landscape and how agreement varies across the community. In this way social mapping may help to anticipate, if not minimize, conflict and improve the two-

way dialogue in natural resource planning processes (Carver 2003, Williams 1995, Gunderson et al. 2004). Brown argues that mapping can bridge the gap between experts and the local community in planning because it allows the public to concretely demonstrate their place-specific preferences for management decisions (G. Brown 2006). Conversely, Yuan et al. (2004) adds that mapping place meanings can allow managers to visually communicate potential impacts of management actions to the public. Mapping landscape meanings can also be invaluable for social learning in which the participants are able to reflect on their own views in comparison with those of the whole community (Williams 1995). This gives the public ownership of the planning process by directly incorporating their knowledge and experience. While many of the positive outcomes of social data mapping have yet to be fully realized, the potential within this emerging domain of research is great.

Despite the many promises, systemic attempts to map social data are a recent endeavor due to the many challenges and limitations. Social data must be handled differently than other types of data which possess discrete boundaries in space such as a vegetative cover or a county borderline. Therefore, one challenge is that the mapping technique must be sensitive to spatial, temporal, and group variation (Williams & Patterson 1996). Brown (2006) contends public values and preference data are “messy⁴” and hard to lay over the physical landscape. Carver (2003) alternately explains this messiness as distortion of perspectives when a person’s unbounded mental map must adapt itself to an actual, fixed map and some things get misrepresented. The distortion can result from the incongruence between the inherently

⁴ exhibits high spatial variability.

quantitative nature of GIS mapping and the “qualitative and perceptual effects of place” (Carver 2003: 66). These issues have informed careful thought on the part of this researcher in designing the mapping exercise for this study presented in this thesis.

One other limitation of mapping meanings is pointed out by Waters and Evans (2003). They argue that the validity of mapping is decreased when participants attempt to map places with which they are unfamiliar. However, I believe this is overcome by opening “familiarity with a place” to indirect experience. As a simple example, imagine a grove of larch on a high mountainside that turns golden in the autumn and can be seen from the valley floor. This annual event may be important to a local person who enjoys viewing it from below. They may never feel the need to hike up and visit the actual grove but they have a relationship with that place nonetheless. At the landscape level, Gunderson and Watson (2005) found that people attach sweeping, intangibles meanings to places on a National Forest they have never visited. Carver (2003) succinctly sums up the promise and limitations of mapping meanings:

GIS cannot possibly incorporate representations of all [personal and community interpretations of space and place] within its necessarily reductionist view of the world, but opportunities present themselves for GIS to at least provide something of a framework (or interface) by which [people] can express...opinions/feelings about particular issues and decision problems. (67)

When Carver speaks of a “necessarily reductionist view of the world,” he highlights the prime difficulty with mapping psychosocial phenomenon. GIS works in a strictly Cartesian understanding of the biophysical world with coordinates, points, and polygons as the preferred nomenclature. Social and psychological constructs, such as relationship to place, exist primarily in the minds of individuals and the rhetorical and symbolic usage by groups. While some psychosocial phenomena retain an integral, biophysical component that can be plotted on a map,

that map does not embody all the complexities of the psychosocial construct itself. A couple can draw a circle on a map of the Kootenai National Forest showing me where they were married, but that circle does not serve as stand-in for all the stories, memories, and images that the couple associate with that place. A map can tell us where but not how and why special places are deemed important. However, even if mapping of social data captures things in a simplified way, it may still complement typical methods and offer useful benefits to the public as well as the NF manager.

The Intersection of Fire, Place, and Mapping

In this research I explored the connection between place and fire and try to understand the spatial components of both through a mapping exercise. This project is the third iteration of a larger research program on place and fire. An initial study was conducted in 2004 by Gunderson et al. and focused on the communities near the Selway-Bitterroot Wilderness in Ravalli County, Montana. Using a conceptual framework based on place attachment research, the authors found that local people hold functional and emotional attachments for forest places. Gunderson et al. also discovered that community place attachments may be at risk from fire and fuels treatments that alter the landscape. The authors also used a pencil-and-paper mapping exercise to illustrate individual and community landscape values by instructing participants to circle their special places. The maps were later digitized using GIS into a social data layer compatible with existing ecological maps. General themes which emerged included support for fuel reduction in the WUI, that wildland fire use should be allowed in wilderness areas, that

treatments should be applied with long-term goals in mind, and that private property owners are responsible for creating a defensible space around their homes. The results of this study by Gunderson et al. (2004) suggest that it is crucial for managers to include layers of social science data when locating and selecting high priority areas for priority fuel treatments.

Alan Watson of the Aldo Leopold Wilderness Research conducted the second iteration of the study as per Knotek et al.'s (2006) study plan. Assuming a theoretical framework based on place, Watson investigated place meanings that tribal and non-tribal landowners hold for the Mission Mountain Wilderness and buffer zone on the Flathead Reservation in western Montana. Results from the first stage of this research indicated that a wide range of social and ecological factors contribute to individual and community place meanings, and that these meanings are threatened by wildland fire (Watson 2007). In the second and on-going phase of research, Watson's study has employed a computer-based mapping exercise adapted from the same basic software which I used and will describe in my methods section. My research built upon Watson's theoretical and methodological advances in place research and cognitive mapping that investigated the link between place, fire, and fuels management.

Conclusion

Management of wildland fire and application of hazardous fuel treatments has become a difficult problem for National Forest managers. The integration of local communities and their knowledge into decisions regarding these issues has the potential to move forward resolution of some contentious situations. To achieve such integration researchers must make social science data more accessible to National Forest managers. Studying landowners' relationships to places is one method for understanding the place-based values of a community affected by natural

resource management decisions. The conceptual framework of relationship to place is predicated upon two streams of place literature, the relational approach and the socio-political approach. Applying the theoretical lens of research on relationship to place enables better understanding of local communities and their views on fire and fuel. Additionally, the study of special places allows a researcher to uncover where on the landscape place meanings are embedded. I chose to investigate the spatial component of special places using a social mapping method based on Carver's Tagger software adapted to the Libby site. Social mapping promised to bridge gaps between experts and locals by demonstrating site-specific choices and treating people as elements of the ecosystem. Despite some limitations, this GIS mapping tool may be a promising way to present place relationships and management views to managers in a useful and accessible format. As the third iteration of an on-going investigation of mapping meanings in relation to wildland fire and fuels management, this study builds on the insights and advances of the prior studies. Ultimately, the goal of mapping meanings is to foster better collaboration between agencies, researchers, and communities and ease the contentious nature of fire and fuels management. The next chapter describes my research design and methodological choices.

Chapter 3 - Methodology

In this chapter I describe the methodological choices and specific methods that characterize this research. Briefly, I explored landowner views on the Cabinet Mountains landscape using a qualitative interview with an embedded, computer-based mapping exercise. Below I demonstrate how and why these choices were supported by my research questions and conceptual framework. In this chapter I also describe my study site, sampling procedure, methods of collecting data, sample characteristics, and testing logic for analysis.

Study Area

Research was conducted on the Kootenai National Forest (KNF) south and west of the town of Libby in Lincoln County, Montana. The rationale for choosing this community was: 1) proximity to a National Forest, 2) proximity to a designated wilderness area, 3) the presence of an extensive wildland-urban interface (WUI) where privately owned parcels adjoin the KNF, 4) the need for and community interest in hazardous fuel reductions in the wildland-urban interface, and 5) the presence of established contacts in the area. These contacts were first leveraged into some early meetings with key members of the community, such as a county commissioner, a Forest Service district ranger, and the head of the county FireWise program, an educational program to teach homeowners about being fire defensible. Additionally, I attended meetings of the Kootenai Forest Stakeholder Coalition, an on-going collaborative effort focused on fuel reduction projects in the WUI, and the Lincoln County Fire Plan Steering Committee. Through these meetings I was able to get a “feel” for the community of Libby and ascertain its suitability as a study site.

The community-level scale was appropriate for this study because of my focus on relationship to place. While a study of rural landowners across western Montana would have also been informative, the particularity of each place would have been lost in the aggregate. The phenomenon of landowners' relationships with special places is indelibly connected to the actual biophysical landscape, the material composition which is perceived to be unique to that landscape and no other. The other strength of a community-level study was the ability to understand results within the social and cultural context of that particular community. At the smaller scale of one local community it was possible to understand relationship to place and views of fire and fuels management within the biophysical and social context of the Cabinet Mountains landscape.

The Kootenai National Forest is situated in the northwest corner of Montana, and spans 2.2 million acres. The KNF covers 76% of Lincoln County (See Figure 2. below). Another 14% of the county is held by privately owned timber corporations. The final 10% belongs to individual and family landowners. Set into the southwest portion of the forest is the federally designated Cabinet Mountains Wilderness (CMW). The northern end of the CMW is bounded by the Kootenai River and U.S Highway 2. The county seat, Libby, brackets the CMW on its north-eastern corner within three miles of its boundary. The eastern flank of the Cabinet Mountains serves as backdrop to the town and extends south into Sanders County. Highway 2 runs into Libby from the west, then turns south and parallels the Cabinet Face for approximately forty miles. I defined my site by setting Highway 2 as the eastern and northern boundaries, the Lincoln County border as a southern boundary, and the Cabinet Face as the western boundary. The forest landowners within this discreet area are most affected by the fire and fuel treatments

that occur here and were expected to have views and interests regarding fire and fuels management.

According to the 2000 census, 2,626 people live within Libby city limits. However, Libby is surrounded by fast-growing rural residential development with approximately 10,800 residents within a four mile radius of the town. Outlying hamlets and scattered private lands comprise a mosaic of rural residential development that stretches south from Libby alongside the eastern flank of the Cabinets. The development is concentrated along the highway, but many USFS and private roads lead to private properties back in the foothills of the Cabinet Face. Early in the site selection process, inquiries into the Montana Cadastral Mapping Project showed a large number of privately owned parcels immediately adjacent to KNF land.

Like much of the Intermountain West, the economy of Lincoln County and its communities is historically based on extraction of natural resource commodities. Namely, the industries of mining and logging have dominated in the past. Now the region is transitioning to a more diverse economy where extractive natural resource industries play a smaller role. Service industries, such as tourism and outdoor recreation, are being endorsed by some residents and organizations within the Libby community. However, this vision does not represent the views of many residents who still rely on and champion the traditional livelihoods based on timber and ore. Conflict over management of public lands has been widespread in the past.

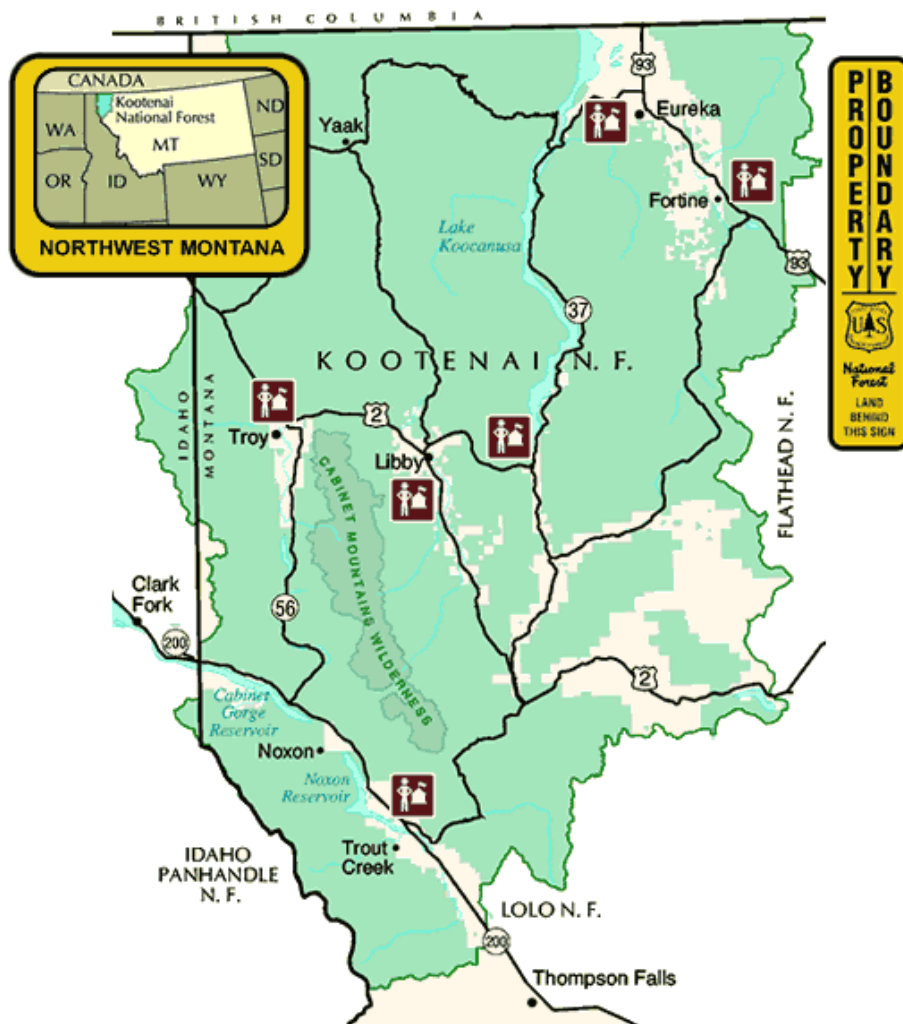


Figure 2.2 Map of the Kootenai National Forest. Courtesy of the USDA/USFS.

Data Collection

In-depth Interviews

I conducted collection of data via semi-structured, in-depth interviews. The typical interview, including mapping, lasted about 90 minutes, but they ranged in length from one to three hours. The mapping exercise itself typically lasted about 30 to 45 minutes. Landowners chose where the interview was to take place in order to make it convenient and comfortable for them. Most interviews were conducted in the landowners' homes. However, two were conducted in restaurants, and several were conducted in places of work. Home interviews were preferred by both me and interview participants as landowners seemed most comfortable and willing to talk at length without distractions. Additionally, these interviews had the added benefit of allowing landowners to walk me around their home or property and point to views and places in the mountains visible from the home. This grounding in a familiar space allowed people to easily describe and visually evoke their sense of place because the landscape which we discussed surrounded them at their homes.

The qualitative method of extended interviews was best suited for gaining insight into complex place-based relationships and also an appropriate tool for understanding landowner views on fire and fuels management. By allowing informants to go into as much depth as they chose, interviews revealed emergent connections between concepts that quantitative methods might not uncover. The holistic, multidimensional nature of place is not well explored by surveys that remove elements of place from their context and compartmentalize its components through pre-supposed lines of questioning. According to Brandenburg and Carroll (1995: 396)

Considering place in resource planning moves away from a reductionist view of the landscape largely because the method in which this information is gathered focuses on allowing people to express their feelings about an entire setting rather than responding to the preconceived categories of managers, public officials, and/or scientists.

Ultimately, I preferred the qualitative interview over a survey because of the ability to immediately clarify the meaning of my questions to the landowner and gain clarity on any ambiguous responses, resulting in much richer data. Place is such an all-encompassing construct that it was difficult to predict specific results prior to the study. An interview guide (see Appendix 1) ensured that interviews were systematic and that data remained relevant and comparable across interviews (ibid). The guide allowed me, the researcher, to craft a directed conversation that led landowners to explore the same themes and comparable topics across interviews without specifically forcing them to explore meanings that would not come up otherwise (ibid).

Probing questions were employed to provide clarification of statements and prompt deeper reflection on key ideas and themes. Additionally, in keeping with precept of the hermeneutic circle as a guiding insight (ibid), the interview guide was chosen over a stricter interview schedule to allow flexibility for researcher and landowners to explore unanticipated issues. As interviews progressed and themes began to emerge, some questions were added to the interview guide, while others took a diminished role.

Mapping Exercise

For the mapping component of this study I employed a computer-based, GIS mapping exercise. This mapping exercise had two functions: 1) Explore the spatial dimension of landowners' landscape meanings and preferences for hazardous fuel treatments and deepen the

dialogue between myself and landowners by allowing them to talk about and specifically demonstrate the biophysical places to which their meanings are attached. 2) Test the potential ability of the mapping exercise to meaningfully represent the understandings that emerge from the preceding qualitative interview.

There have been steady attempts at mapping social science data in recent years. A wide variety of techniques have been used by researchers with varying results. Early efforts involved working with pencil and paper maps (Gunderson et al. 2004). Geographic Information Systems (GIS) is now the accepted tool for storing, accessing, and analyzing spatial data for natural resource management agencies that handle enormous data sets (Carver 2003). Accordingly, GIS has emerged as the one of the most widely used tools in the mapping of social data (Carver et al. 2001). This project aimed to create layers of psychosocial data that could easily be overlaid on existing GIS layers that planning agencies frequently consult. I will now trace the development of social mapping as it relates to place concepts and the evolution of specific techniques that guide my own exercise in mapping place meanings.

Capturing relationships to places in a spatial and visual context requires a sophisticated instrument. One challenge to its development is the linguistic gap between computer programmers, social scientists, and the interviewees, which makes it difficult to create a tool that is understandable to all three. Waters and Evans (2003) made this leap with the development of a “spray can⁵” instrument to capture “fuzzy” boundaries in space. They assert that fuzzy, or ambiguous, geographical boundaries exist when one or more of the following criterion exists: 1)

⁵ Familiar from common graphics applications such as Microsoft Paint.

Continuousness; when the measurement of an entity produces a gradient, such as the slope of a mountain. 2) Aggregation in the categorization of variables; when discrete visual boundaries on the map actually represent a set of geographic variables that have been averaged together for ease of description. An example here is soil types. 3) Averaging; when discrete boundaries are an average of geographic boundaries that vary across time and scale, such as the boundaries of a river. 4) Ambiguity; when the boundaries are tied to linguistic factors. Water and Evans (2003: 2) use the example of asking participants to map “high crime” areas:

...most people will draw on a slew of continuous and discrete variables at differing scales of detail, historical experiences, urban morphology and mythology, as well as introducing linguistic ambiguities.

All four of these criteria are at work in attempting to map relationships to place and perspectives on fire and fuel management. For these reasons, an on-going collaboration with Carver and Waters from the University of Leeds was established, and their techniques and software (a program dubbed “Tagger”) were adapted to examine place and fire in Montana. I worked closely with Waters for several weeks to develop a laptop-based mapping exercise tailored to this study, adapted from the original Tagger program and building on work that had already been accomplished for the concurrent iteration of this project being conducted by Alan Watson of the Aldo Leopold Wilderness Research Institute.

I will briefly describe how the Tagger mapping tool worked. Basically, it is a Java graphic applet that is able to illustrate boundaries of areas defined by personal and social parameters as a gradient of intensity instead of simple, linear boundaries common to biophysical mapping. Steve Carver of University of Leeds used the Tagger program to research the British public’s perception of wilderness areas around the United Kingdom (Carver 2007). Carver

adapted the spray can tool to a program that allowed users to map meanings with intensity. They then attached written comment “tags” (hence the name) to each area they map (Carver 2007). All the tags for each sprayed area can be viewed together in a textual format. I eventually left out the written tag component of the process in favor of verbal elicitation of meanings associated with each map.

Each interview for this project began as a more conventional interview, and then it moved into the mapping after all items in the interview guide were covered. As I led a participant through the mapping exercise, I continued to record the conversation for transcription and analysis. For the mapping of place meanings, I instructed each landowner to map places that are important to them using the spray tool. The program then attached a tag, consisting of a number code and date, to each map created. I used these tags to catalog the map data for later access. I asked the landowner to discuss if they go to that place, how often they go there, what activity they do there, and why it is special to them. I later coded and analyzed the transcripts of these answers to gain a rich explanation of what each landowner was mapping and why.

I initiated the mapping exercise portion by summarizing significant themes that emerged from earlier portions of the interview. However, I ensured that each participant understood they were free to map whatever they desired or to refrain from the exercise altogether. Had I asked only for “important places” I could have biased the interview and mapping towards eliciting only positive meanings about special places. To counter this tendency I asked landowners to also consider mapping places that had negative significance for them. Although I did not get many negative important places, several landowners did create maps showing a recent clearcut that troubled them. Landowners were also given time at the end of the interview to map or discuss

anything that we had not adequately addressed. Most participants stated that we had “pretty much covered it all.” This was not surprising given the length of many interviews.

One of the purposes of this study was to understand landowner views on specific fuel treatments utilized by the Forest Service. Many different types of fuel treatments are now being used by the USFS or could be used in the future. Out of the many I chose to investigate three of the most common. These were prescribed burning (when managers intentionally light a fire based on a site-specific prescription), selective logging (thinning the forest to reduce fuel loads), and wildland fire use (allowing a lightning-ignited fire to burn with monitoring, also known as WFU or “let burn”). Landowners were instructed to create a map of where they thought each method was unacceptable⁶ for use on the National Forest. Many landowners were already very familiar with these fuel reduction techniques either through professional or personal experience. However, if I judged that a landowner was not familiar with certain fuel treatments, then I read uniform, non-technical descriptions of the methods drawn from official USFS literature to them. This approach ensured that landowners without much prior knowledge or experience of hazardous fuel treatments could also participate in the mapping. As in the mapping of place meanings, each landowner was also probed to elicit details on why they mapped the areas. Landowners were also given a chance at the end of the exercise and interview to map and discuss any topics that they felt were not adequately covered.

⁶ I chose “unacceptable” rather than “acceptable” for 2 reasons. 1) I hypothesized that there might be fewer unacceptable places than acceptable places, and that this would make it easier and faster for participants to map. 2) I had hoped that there might be a neat and easily identifiable overlap of special places and places that were unacceptable for thinning or burning because landowners would not want their special places to be changed by management.

Pre-testing

To refine the mapping exercise and the overall interview, I pre-tested the methods with three people prior to finalizing the research design. These participants included a community leader, a Forest Service fire management officer, and a county fire planning representative. Interviews followed my draft interview guide. Pre-test interviews were recorded but not transcribed. I listened to each interview twice and took notes on important findings. Analysis of the content of the interview and mapping exercise was not the goal herein. The purpose of the pre-tests was to: 1) practice my interview technique, 2) explore weaknesses and strengths in the mapping exercise, 3) fact check my descriptions of the three fuel treatments, 4) learn whether or not my questions elicited the kinds of information I sought, 5) see if there were things I left out of the interview or mapping exercise that may have been important. Revisions of the final interview guide and the mapping exercise were based on results of these pilot interviews. Additionally, I elicited information on potential study participants from these three individuals. Even though all pre-test participants were also landowners and I conducted complete interviews, these data were not included in my analysis because my techniques changed greatly after the pilot test and interviews themselves were full of stops, starts, and asides. And while the data was not used in later analysis, the pre-test was a vital part of the process and led to better interviews later.

Sample

The goal of sampling was to gain depth of understanding of a diverse range of forest landowners. This study focused on the population of forest landowners living in the wildland-

urban interface (WUI) surrounding Libby, MT. Forest landowner⁷ was defined as an individual or family who owns a parcel of forested land adjacent to the Kootenai National Forest or in close proximity (<1 mile). I chose to work with landowners based on the premises that they were most affected by nearby fuel treatments and fire, that they may have had direct experience with prior fuel reduction projects, and that they had relationships with the landscape. This sample included some landowners on the periphery of Libby, as the CMW is within three miles of the town. While their status as a “forest” landowner may be arguable, they still border the KNF and are affected by fire and fuel management.

I did not seek to represent all community or stakeholder views in my sample or achieve statistical representativeness in my findings. For this reason it would not be appropriate to assert that the findings of this study are generalizable as defined in most quantitative research. That was not the goal. Instead, my goal was to achieve a representation of the diversity of perspectives in the population of forest landowners and to gain an in-depth understanding of these “representative types” (Bellah et al. 1985). A rich understanding of the specifics of the Libby and Kootenai National Forest context allows for more substantive insights into actual application of the findings in this specific instance. My findings may not be as useful in other geographic locales with very different biophysical, social, and managerial contexts. However, qualitative research of this type may produce knowledge which can be transferred to other settings that are very similar in demographic and other sample characteristics (e.g. other populations of forest landowners in the WUI of small urban centers in otherwise rural, forested areas in the Western

⁷ This excludes corporate entities, such as timber companies, in order to tighten the focus of this study.

U.S.) and phenomenon being studied (e.g. place meanings as connected to views fuels management). This “transferability” (Lincoln & Guba 1985) of very holistic and contextual knowledge (M.E. Patterson & Williams 2007) is a strength of qualitative research.

To achieve a diverse sample I used a nonprobability, purposive sampling approach. This approach was based on the chain referral methodology detailed in Brandenburg and Carroll (1995). The process entailed creating a master list of potential participants based on the recommendations of the Fire Plan Steering Committee members and those managers and community leaders who took part in the pilot study. From this list, I then purposively selected interviewees. While this initial list was useful in selecting my first few interviewees, I soon hit a wall in contacting landowners and securing meeting times. I believe that this was due to the fact that I was almost exclusively calling landowners on the phone during the day and leaving messages. People may have been hesitant to return a phone call from a stranger asking for their time. However, I had a breakthrough when county councilperson Rita Windom furnished me with an extensive and fruitful list of potential interview participants. Finally, at the conclusion of each interview I asked participants to suggest additional landowners who they thought might be insightful to interview and willing to participate. I encouraged landowners to recommend both people whom they felt shared similar views and people who were different from themselves. In this way I was able to ensure a diverse sample of landowners. In these ways I was able to gather an extensive list of potential interviewees from which to choose and satisfy my sampling principles.

My final sample size was 29 interviews with a total of 37 informants. Several married couples were interviewed together. One landowner of a large parcel was interviewed along with

his land manager. With only one direct rejection I had a response rate of 96.7%. Although four phone messages were never returned, I do not make the assumption that these were rejections due to the seasonal nature of many residents in the area. I contend that this sample size was 1) large enough to capture the range of diversity within the population of landowners, 2) large enough to gain insight on the commonalities, differences, and patterns in the data across the sample, and 3) small enough to be analytically manageable for the researcher (Patterson and Williams 2001). I do not contend that I have represented every possible view and interest within this population, nor do I believe that “saturation” (a sampling criterion frequently advocated in grounded theory) is truly possible. There will always be a multiplicity of divergent perspectives that cannot be reached in a manageable sample size. However, diversity within the sample was gained by purposively sampling across the population to select for certain strata.

I initially chose different landowners to interview based on three primary criteria. The first criterion was length of residence. Two categories existed within this group: newcomer and long-time local. Newcomer was defined as a landowner who had resided in the area for less than ten years. A long-time local was someone who had lived in Libby at least ten years. Although some long-time locals has been born and raised in the area, this was not a necessary criterion for this category. The second criterion was residency. Two categories herein are absentee and resident landowners. The third criterion guiding my selection was an intent to capture diversity across demographic categories, including sex, age, ethnicity, and occupation. The reader may notice in the sample distribution that I had a predominance of middle-aged or older participants (i.e. older than forty years of age), many of whom were retirees and second-home owners (see Table 1 below). This distribution is typical of western Montana and may be described as result

of a combination of factors such as the money needed to own property and the aging of rural areas as young people leave to seek education and jobs in urban centers. I attempted to sample at least eight representatives of each major stratum and largely succeeded in that regard, as the reader can see in Table 1 below.

Some obstacles hindered effective implementation of my original sampling principle. I had initially wished to select for representatives of different ethnicities, political affiliations, and socioeconomic classes. Each of these categories posed challenges that ultimately limited my ability to include them in the sample. Due to the largely Caucasian demographic makeup of Libby and its rural residential development, I was unable to locate any non-Caucasian people besides one Native American resident. Additionally, I had wanted to cover the political spectrum present in the population from conservatives to liberals. However, Libby was until recently a very polarized community along the “owls versus loggers” divide, sometimes violently so. I did not feel comfortable explicitly asking people about their politics. Although political views were frequently brought up in conversation by landowners, I did not address this stratum systematically and cannot draw any conclusions based on this category. Finally, I had also wished to get a diverse range of participants from different socio-economic strata. However, I realized that it violated community norms to ask about income and soon removed this as a sampling criterion. It must also be noted that by choosing forest landowners as my population, I excluded renters and other residents of the WUI who cannot afford to own their own homes or land. Despite these limitations, I feel that I got a well-rounded representation of Libby residents given the limited scope of this project.

One of my three major sampling stratum I was unable to adequately survey was absentee landowners. At the research design stage, I felt that it was important to include absentee landowners because they are a growing portion of rural, Western communities who may have had very different relationships with the landscape and views on fire and fuel than permanent residents. Interviews took place in the summer of 2007, a very hot, dry, and smoky summer in northwestern Montana as dozens of large wildfire burned across the region. I had hoped that this time frame would have enabled me to access those landowners who only frequented the area in the summer. However, I believe that many of these absentee landowners may have chosen to stay away from Montana that summer based on the adverse conditions. This assumption was bolstered by comments from the one absentee landowner who I did interview. He stated that several of his friends who also owned vacation homes in the area had either left early when the smoke become unpleasant or had not come at all. It was not feasible to contact and travel to interview these absentee landowners at their out-of-state residences given my timeframe and the associated costs. While it may have been possible to reach these landowners over the phone, I had difficulties even obtaining their contact information because most of these temporary residents did not interact with the Libby community and were unknown to permanent residents, according to the landowners I did interview. For all these reasons, I decided not to emphasize absentee landowners in my sample and concentrate on the permanent residents of the community. So I really ended up with only two sampling criterion.

Table 1. Sampling Distribution	
Category	Amount
<i>Length of Residency</i>	
Long-term	25
Newcomer	12
<i>Residency Status</i>	
Permanent	36
Absentee	1
<i>Gender</i>	
Male	25
Female	12
<i>Married Couples Interviewed Together</i>	7
<i>Ethnicity</i>	
Caucasian	36
Other	1
<i>Age</i>	
25-40	8
40-55	13
55+	16
<i>Livelihood</i>	
Resource Extraction	9
Retired Resource Extraction	8
Other	8
Retired Other	12

Analysis

As stated earlier, my analysis was guided by the principles of hermeneutic inquiry. This methodological approach stresses the on-going and ever-deepening nature of qualitative analysis and interpretation. There is no clear end-point of analysis because new insights are always occurring. However, my analysis was organized into several clear stages. This section examines the stages of proofing, coding, cross-interview analysis, selection of excerpts, and writing. Through this section, this chapter, and this thesis, every effort has been made to make my choices as the researcher and interpreter transparent to the reader. This section in particular pursues the goals of openness and accountability.

After all of my interviews were complete, the digital recordings were professionally transcribed for analysis. I then listened to each interview while reading the transcript to proof them for errors. The proofing stage was the first time that I read an interview all the way through and represents the beginning of nomothetic analysis as I jotted down notes on possible themes. At the proofing stage I also “cleaned” the data, removing verbal place-holders and tics, such as “like” and “um,” and correcting any errors. At this stage in the process I also developed a system of index numbers and pseudonyms to protect the anonymity of landowners.

After proofing, I began the lengthy process of coding. The interviews were coded using the QSR nVivo 7 program for easy referencing of meaning units. My analysis was steered by the Tesch’s (1990) “organizing system” concept described in Patterson and Williams (2001). As opposed to content analysis, a typical method of analyzing qualitative data, the organizing system framework for coding of meaning units allowed overarching themes in the interviews to

be identified, interpreted, and presented in a holistic manner that highlighted relationships among the themes across the sample (M.E. Patterson & Williams 2001).

I began the coding process with open coding. This was a loosely structured step, as I read each interview at least 2-3 times, not including the proofing. I coded meaning units freely using labels, or “free codes,” that I devised myself or with committee input. Whenever possible codes were drawn from the landowners’ own vernacular. Sometimes meaning units were double- and even triple-coded if more than one phenomenon was occurring in a given passage. After coding each interview I wrote brief summaries of the interview to highlight interesting features and sketch out succinct biographies of landowners.

When open coding was complete, I used the NVivo framework to organize my free codes into tree codes. This stage helped me to rough out a general structure for my ideographic analysis as open codes were put into general categories such as “place,” “fuel treatment mapping,” and “biosketch.” I even grouped interesting themes that fall outside the scope of this study into their own trees for later retrieval. When coding was complete, I had to step back from this narrowing process and again look across the whole body of data for overarching themes.

As I moved to ideographic analysis, I returned to the holistic themes I had taken notes on during my data collection and initial readings of interviews. I also reread the memos I had written while open coding. I began drawing rough, visual diagrams to connect ideas and themes. These practices allowed me to visually assess relationships between codes, examine redundancies, and creatively hash out working hypotheses. Ultimately, I moved past these schematics to standard, written organization. However this was an important middle step as it

allowed me to shift from the mechanics of coding back to higher levels of interpretative and critical thinking.

At this point in my analysis, I returned to the abundance of mapping data. Using the tags created by the program, I paired each map with its corresponding transcribed passage from the interview. I started analyzing landowners' maps, coding them, and organizing them for integration with standard qualitative interview data. What I found early on was that most landowners created mostly maps of their special places. Frequently these special place maps were based on areas valued for amenities, activities, such as recreation, or proximity to home. I also noticed a common theme among maps that landowners created to demonstrate that the whole landscape or region was important. These maps seemed informative about landowner sense of place in general and the process certainly added a depth to the conversation as landowners could point to the places on the map as they talked about them. However, I realized that the mapping exercise was missing something in tracing spatial connections between special places, their meanings, and fuel management preferences. Although the latter place maps pertaining to the whole landscape hinted at meaningful spatial connections, management preferences and special places were not operating on the same spatial scale. For these reasons, I came to realize that the maps by themselves would not tell me or a manager much. The linkages between preferences and place meanings were wrapped up in larger narratives not captured by the mapping exercise. Ultimately, I decided not to devote my limited time to fully incorporating the maps into GIS layers and producing hard copies of maps. Instead, select maps will be included in this thesis to illustrate themes much the way excerpts from the interview will be used.

In the interest of transparency, the process and principle behind selecting excerpts and maps for inclusion is examined in this section. It is impossible to include all the data resulting from 29 interviews, some of them nearing three hours long. For that reason select excerpts are chosen to illustrate themes and patterns. Typically, an excerpt will be introduced with some biographical information about the landowner. The excerpt will be followed by my interpretation guiding the reader to see the relevant themes in the passage and across the sample. Some phrases and excerpts are incorporated directly into the body of the text. However, most passages are longer and therefore block indented to emphasize the voice of the landowner. When my voice interjects a question, my words are bolded and preceded by **I** (for interviewer). The landowner's words are then preceded by L, or, if a couple, L1 and L2.

When I began the writing process I returned to my reorganized trees codes and re-read all key passages. While still attentive to meaning, I primarily reviewed these passages in order to choose those for inclusion. First, I tried to select one from each landowner for each important theme and set these aside. Then I went through these excerpts to choose which served as the strongest evidence of the themes and patterns that I as the researcher had decided were the most insightful in illuminating the relationship between place meanings and fire/fuel management preferences. What made one interview excerpt the “best” or strongest evidence? While excerpts were drawn from all landowners, some people's quotations were used more often than others because of their ability to succinctly and clearly express their ideas. Additionally, the passage must have a depth and richness of detail to tap the larger themes linking all the selected quotations together. For example, in the second results chapter, I chose passages that highlighted both management preferences and the sociocultural narratives that drive these preferences. The

number of passages used to illustrate a theme is not indicative of the actual number of landowners who talked about any given theme. Several quotations may be employed to emphasize different aspects of a pattern or alternative ways of expressing a concept. Excerpts reflect the range of meanings expressed, including minority ones. When this is the case, that alternative viewpoint will be introduced and explored interpretively.

To guard against selectivity and bias in my choices, I attempted to include passages from every landowner at some point in the results chapters. In this way the reader may judge for himself/herself if patterns truly existed across the population of landowners. Additionally, I had several rounds of group analysis early in the analysis process. These group reviews consisted of meeting with my committee members, all experienced in qualitative analysis, to explore how our interpretations of interviews compared and contrasted. Their insights, often slightly different than my own, made it clear that alternate interpretations of the data do exist and are entirely valid. It is incumbent upon me as the researcher and writer to guide the interpretation. I will provide evidence that my methodology was systematic and rigorous even when unobservable to the reader.

There is no definite end to the process of analysis via the hermeneutic circle. With that in mind, new insights into this data set have been gained after the formal analysis stage was passed. First, this work has been presented professionally while I was still writing the complete thesis. The preparation of the presentation and actually giving it to the public forced me to streamline my primary insights and confront inconsistencies in my logic. Similarly, the writing and revision process for this thesis has been part of the analysis as well. Ideas and working hypotheses linking ideas together are tested by my own editorial pen as well as my advisor.

Some are well supported by the data and remain; others drop out as interesting directions that are not well supported by the evidence. Even as this thesis will eventually reach some finished and accepted state following the defense and final revisions suggested by my committee, my own thinking about some of its major themes and implications will no doubt continue to deepen long after the final product has been placed on a shelf.

Chapter 4 - The Role of Spatial Scale in the Relationship between Place Meanings and Management Preferences

This study was undertaken to understand the relationships between landowners and the forest landscape. Specifically, one of the research goals was to understand if landowner relationships with place were linked to landowner views on fire and fuels management. In short, findings presented below indicate that place meanings and fire/fuels management perspectives are connected among resident landowners in our sample, but not always in the ways that previous research has suggested. Research results indicated that relationship to place operated on different scales ranging from very specific “special places” to the entire landscape, but landowner views on fire and fuel management were primarily situated at the landscape level.

This chapter examines issues of spatiality and the scale of place meanings and management preferences. Scale is important in this project not just because scale is an important component of relationships with place. In addition, getting scale “right” is critically important to management, especially for agencies which manage huge swaths of mixed-ownership lands. From micro to macro, which scale is the right one for a particular decision: site, local area, city, community, national forest, county, region, state? In the natural resources literature on place, researchers often assume that a variety of social phenomena operate at the same scale – place meanings, public views on management actions, among others. In particular, past research has suggested that understanding how people view special places on the landscape (identifying discrete locations and the values associated with such locations) will help managers understand which management actions will be acceptable in which locations. However, in this project place

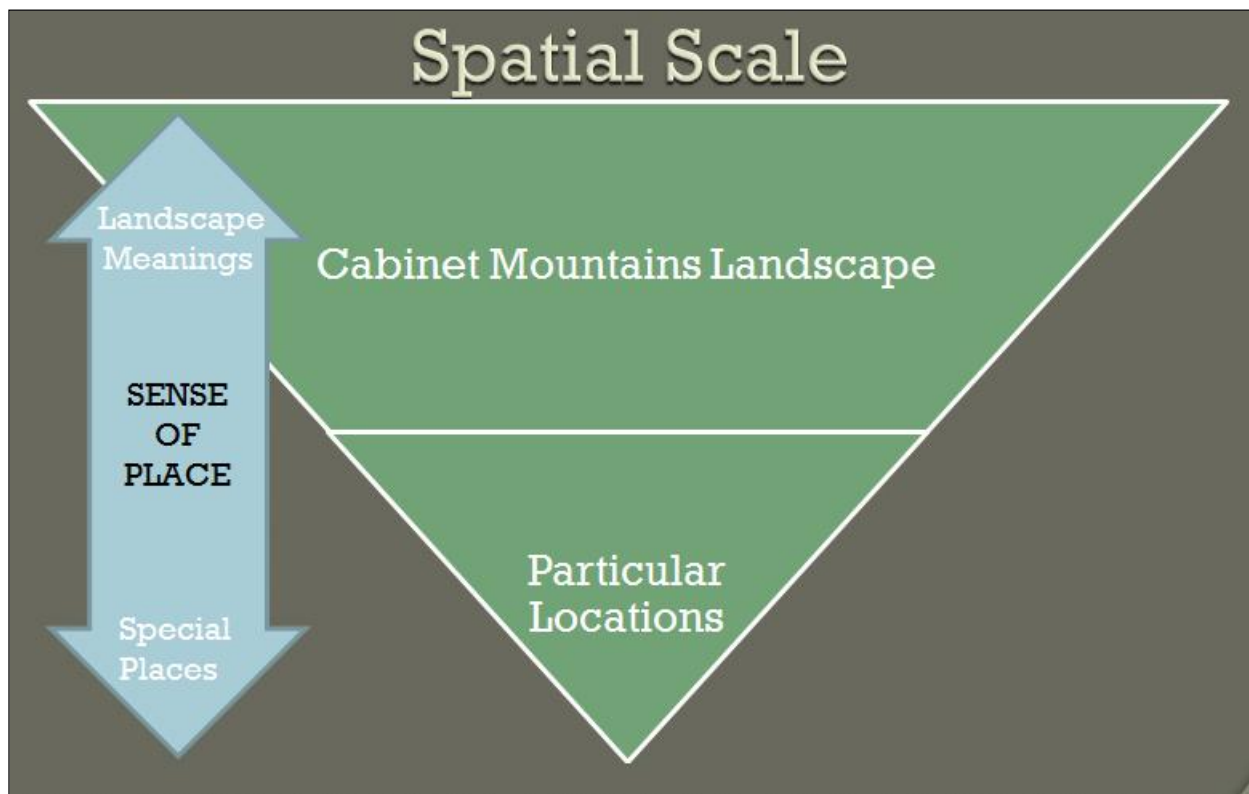
meanings operated at multiple scales, while landowner preferences for management actions were situated at a landscape scale. Furthermore, management preferences had little connection to special places. As detailed below, this finding has important implications for how place research can be applied to decision-making about fire and fuels management. Results draw on the both the “typical” portions of the interviews (where landowners were asked about their relationship with place and their views on fire and fuels) as well as the computer-based mapping exercise embedded within the interviews.

Scale of Relationship to Place

In this section, I examine the scale of special places as mapped and discussed by forest landowners. As described above, landowners held place meanings at a number of geophysical scales. These scales ranged from small scale physical locations, such a specific grove of blue spruce trees or a section of stream, to broad landscapes, such as an entire mountain range. In the place literature, the term “special places” often refers to specific geographic locations endowed with meaning through human association. There exists no corresponding term for place meanings that are attached to the *whole* landscape. While “sense of place” captures some of the holistic dimensions of this larger scale relationship, the term itself is used with ambiguity in the literature and does not have a fixed scalar dimension. Therefore, broad attachment to place and associated meanings will be referred to herein as “landscape-level place meanings” or “landscape meanings,” while the term “special places” will be retained to indicate smaller scale locations, such as specific lakes, berry patches, or meadows.

It is important for the reader to conceptualize place as existing on a dynamic range of scales (Figure 1). All physical landscapes are composed of smaller scale locations. There exists no mountain range in totality that is not the accumulation of individual rivers, meadows, stands of trees, valleys, and peaks. Place meanings are often attached to these specific locations within a broad landscape. Such a location is then a “special place” to the person or group which holds meaning for it. However, place meanings may also be attached to broader features of landscape, such as an entire tropical island or an African savannah. In Figure 1, the two-way arrow representing sense of place indicates that place meanings exist on a spatial continuum, from the small meadow to the whole landscape, and defy easy classification at any one scalar level. During interviews landowners frequently shifted between different scales as they discussed their overall relationship to place. This phenomenon also suggested that these scales are both nested and overlapping and that landowners attach their place meanings at either scales, or sometimes both, at the same time. Keep this figure in mind throughout the chapter, as I will continue to build on these concepts.

Fig. 4.1 Spatial Scale of Relationship to Place



Special Places

In this study, landowners described and mapped special places to which they felt a bond and to which they attached meaning. Landowners marked their special places on the map, sometimes meticulously, and discussed them in great detail, often relating very personal stories, experiences, and memories. While a diversity of special places were described, special places fit into four general categories: 1) personal home and land, 2) recreational areas, 3) scenic views, and 4) hunting and gathering areas. The mapping exercise captured the physical locations of landowners' special places in the Cabinet Mountains landscape. For each of the following four sections I include interview excerpts describing special places as well as one map as an example of each type of special place. Each of these four subsections will explore the range of values that landowners attributed to these different special places and how these perspectives were related to management preferences.

1. Personal Home and Land

Many forest landowners began the mapping exercise by mapping their own land or home area as a special place. (I have not included an example of this type of map as it would violate participant anonymity.) The following landowner rolls many important facets of his special place into this description including remoteness, privacy, and wildlife.

L4: ...So we wound up owning it. And have loved it. There's just no place like it, not that I know of. I value being inside the national forest. Value it.

I: So when you say it appeals to you to live inside the national forest, what do you mean by that?

L4: Privacy, tremendous privacy...It has everything we want. And it's just a wonderful way to live unless you're too city oriented...This is kind of a heavenly place. There's nothing I've ever seen that I like better. I bet we see more animals than anybody that goes in the national parks. I know we do. I've been over there.

Many landowners, including L4, described privacy, rural setting, proximity to the national forest, and wildlife as reasons for why their private property is special to them. Many landowners spoke of their personal land, home, and accompanying amenities with the glowing pride evident in L4's voice as he compares his private land to nearby Glacier National Park. In addition, many landowners also referred to their property as "heaven" or "my little piece of heaven." Often times, the discussion of their home also evoked memories and stories about buying the house and what first attracted the landowner to that particular place. It was evident that personal home and land among these landowners was a special place of the first order.

This next landowner described some of his properties amenities, but he also went on to discuss its deeper significance for him.

Well, my place. There's a little sign right there that says "end of the road." When I come home from going out, this is the end of the road right here. This is where everything else gets put aside. There's peace here. There's tranquility here. There's naturalness here...This place is more than just a chunk of ground. It represents my family. And all of the family that comes here, they feel the same way about this. This is home. (L31)

To this landowner and others who described similar feelings their private property exudes a sense of home and belonging. And as also illustrated in this excerpt, nearly all landowners mentioned family ties as part of the importance of private property. Many old-timers connect to their past through properties that have been handed down through generations, while newcomers often mentioned how their property "will be in the family for years to come" or will be given to their children someday. Many people choose to live in the WUI because it makes them, like this

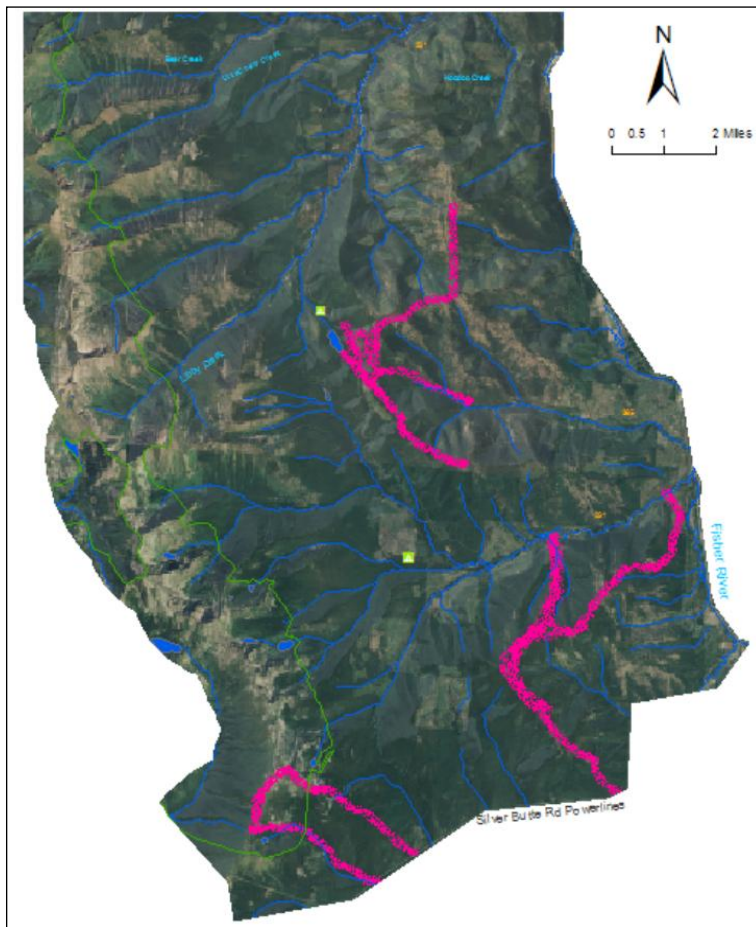
landowner, feel “close to nature” and “at peace.” The familiarity of their place and its environs is a comfort to them as they talked knowing that part of the landscape better than all other parts.

Despite the intense feelings that landowners felt about their homes and land, there was little connection between those private interests and their public management preferences, as will be discussed in the following chapter. A preference for personal protection (i.e. agency-initiated, fuel reduction projects on the National Forest around their land) was rarely reflected in the management maps. This landowner described how he would feel about asking for special fuel management or fire protection for his own home.

I don't think that I could say this mile wide band on my [property] perimeter is more important than what's up adjacent to the dam. It's not any more important than the whole thing. When I talk about that they need to be managing "it", "it" is all of it. They need to start managing the whole thing [the whole National Forest]. And this piece [indicating his private property] isn't any more important to me than beyond that. (L34)

In this sense, L34 was reflective of the general sentiment of landowners in the sample. Nearly all landowners chose not to create maps indicating that their private property should be given more consideration by managers. While the many maps of homes as special places demonstrated a significant attachment to private property, such maps would not be of much use to fire managers hoping to understand landowner management views.

Fig. 4.2 A map a landowner made to demonstrate his favorite horse trails.



2. Recreational Areas

While landowners might have mapped their private property as a special place first, they mapped more recreational areas as special places overall. Many participants created several different maps for different types of activities, such as one map for winter activities, one for hiking trails, and one for bird-watching. Others created only one map but depicted several special places associated with different activities on the same map. Pictured in Figure 4.3 (above) is a map created by a longtime local to show his favorite places for horseback riding, gathering forest

products, and fishing. He explained that most of the lines follow old trailsⁱ which were established by hunters and trappers long ago and were important to him for recreational as well as historical values.

Well, this is Trail 6 right behind me. You get on Trail 6 and take off. Ride my horses on it all the time. It's a real nice chunk of ground. You know, it's the Cabinets. They're pretty low use. They're really nice wilderness area... Obviously, there's a reason why the people in Lincoln County live here, it sure isn't because of the economy's been easy or anything else. It's because they're attached to the land somehow. And I ride my horses in it. That's my deal. I used to hike in it, and I'm getting too beat up to do that anymore, so I ride a horse... I like that Baree-Bear (Lakes) loop trail... Every year I do that. That's probably the most important one of the trips I take every year... But that's nice, all that from Horse Mountain over to the divide. I do that whole trail system there all the year. (L1)

For this landowner the use of his favorite trails is a yearly rite with multiple meanings for him, and many different activities that range from recreation to gathering non-timber forest products. These meanings include personal independence, low use, wilderness, an attachment to the land, and important yearly trips. He explicitly connects his recreational activities, in this case riding horses, with his philosophy regarding why people choose to live in an isolated community such as Libby. In this case his special places for horseback riding represent a way of life closely tied to the land. For other landowners a variety of recreational activities created and maintained that connection.

It was common for landowners to discuss emotional associations with their special places that go deeper than the recreational activity that took them to a particular location on the landscape. Many landowners mentioned family traditions and the memories that they connect to the landscape created by repeat visits to special places with family and friends. This landowner

described how his special places are valued for scenery, canoeing, and not just *taking* the kids along, but *making* the kids there when he was younger.

I: Do you have any special places up there?

L32: Lots of them. The Ramsey Creek drainage... It's just jaw dropping. You can go up there now in the middle of the summer and meet just a few people...Howard Lake, we [his family] go up there a lot for a quick paddle-the-boat-around-the-lake and . . . The Ramsey Creek drainage, if you get a chance to go up there though, there's a basin up there that's surrounded by waterfalls. There's ribbons all over the place. It's a kid-making location.

And while this man associated his special places with the conception of his children, a few landowners associated their special places with death. They shifted from describing their favorite recreational activities at particular locations to stating that those places will be the final resting place of their ashes after they died.

I: So do you have any special places in the family?

L29: Leigh Lake quite often. Granite [Lake].

L30: And then Granite.

L29: And we did Cedar Lakes.

L30: Dome Mountain's really my very favorite, to go to the top of Dome Mountain.

L29: Dome.

L30: We both would like our ashes on the top of Dome. We just don't know who's going to get us up there. Maybe our grandson. And we have a lot of relatives whose ashes are on Treasure Mountain.

Areas that start out as just scenic destinations for a hike or family picnic become valued pieces of personal and family territory and reminders of loved ones and good memories. Ultimately, a recreational place will become a final resting place for some landowners. And while spreading ashes at a recreational area was only discussed by three landowners, the level of attachment this sentiment expressed was common among most landowners.

A manager could conclude that such profound attachments to special places would lead landowners to prefer that management activities not alter these places. While one might expect that landowners would have strong or even specific management preferences for special recreational places, the locations of these places were treated no differently from other locations or the landscape as a whole during discussions of fire and fuels treatments. These data will be explored in later sections. In short, the existence of special recreational places did not seem to influence views on fire and fuels at all. So just as the personal land and home maps were not well connected to management maps and values, neither were these maps or discussions of special recreation spots. That is not to say that these maps would not be useful in other contexts, especially to recreation managers interested in the range of activities that people conduct in any given area of a management unit and what those places mean to users beyond recreation. This mapping exercise could be very useful as a social assessment tool in the scoping process of a recreation management plan. It is just not as useful within the fire management planning context.

3. Scenic Views

Another type of special place that was frequently described and mapped by landowners was locations with scenic views. Maps of scenic views were closely tied to private property maps as the landowners typically tried to demonstrate the view of the landscape that they enjoyed from their kitchen window, garden, or back porch. The map below (Figure 4.3) was created by a married couple as their attempt to map the scenic view from their backyard. As you can see on the map, they live on a corner parcel on a high bench above a creek giving them an expansive view of the whole Cabinet Mountains range. The map is significant because it demonstrates that landowners could map not only special places that they visited regularly, but also special

amenities tied to the locations they did not visit. Scenery was very important to landowners.

Many landowners mentioned scenery as a primary reason for choosing to live where they do.

According to this landowner:

I would have to say that it's probably...one of the most stunning views you're going to see. I just feel lucky. I feel like when I turn off of Hwy. 2 onto Bear Creek Road I'm looking at a postcard. It's so pretty. In fact, I think when we were first looking at property out there...I said to [my husband], "If I had something like that to look at every morning while drinking my cup of coffee, I would think I had died and gone to heaven here on earth." And I didn't even know that it would end up being a place where we live, so I do feel really incredibly lucky. (L28)

This woman listed her "stunning view" as a prime motivation for her choice of real estate, and it was clearly a source of contentment for her. Other landowners found enjoyment in the natural processes that a scenic view gave them an opportunity to observe. Scenic views were commonly associated with the ability to watch the change of seasons, storms, and autumnal foliage. As this landowner states:

I would describe [my home] as sitting on the edge of the bench here, and it's just like the mountains are holding me in their arm... And it's never the same. You see the storms coming across the mountains from the Spokane area. You can pretty much time it...And in the fall it's absolutely beautiful. (L10)

There were also negative aspects of an unimpeded view of a heavily logged and occasionally burned landscape. Several landowners discussed how one highly visible clearcut on private property affected their scenic view. Interestingly, they concluded that the clearcut did not ruin it, once they became used to it, and that such signs of logging are an unavoidable, if not always beautiful, part of the working landscape.

A lot of people would come out here, and they'd look across there [at a nearby mountainside] and say, "Oh, look at that ugly clear-cut!" And I'm saying that's the first time I've ever seen the land up there the way the hills are. It was exciting to me, but now you can't tell it was ever clear-cut... You can see all the young trees in there. (L19)

Some landowners, such as those above, described enjoyment at being able to watch trees and the forest change and grow back. Similarly, many landowners mentioned areas that had been burned by wildfires, but no one described old fire scars on the landscape as disrupting the overall beauty of their viewshed.

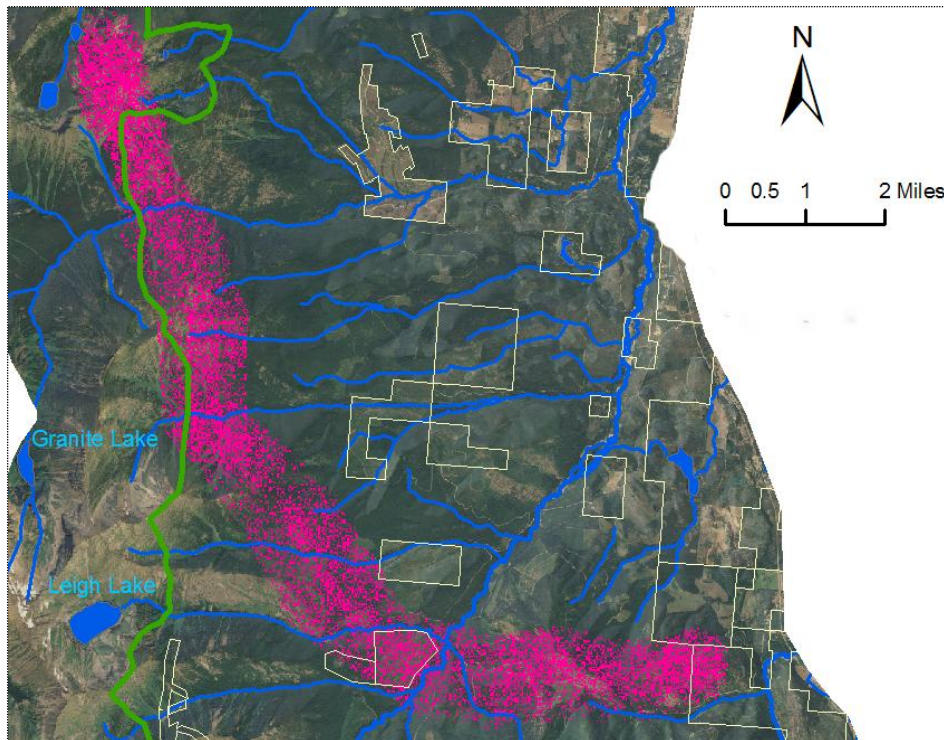
And if I look up [at the Cabinet Mountains] and see burnt [trees], there's some beauty there too. So it just doesn't really bother me. (L23)

More than a few landowners remarked that the post-burn areas had a different kind of beauty, which outsiders might not understand, but was part of the aesthetic of "their Kootenai Forest." Similar to the above quote regarding clearcuts, many people appreciated the chance to experience the process of regeneration following a fire. This is really an aesthetic about a natural process, not a just a static, scenic view.

Because scenic views can be dramatically altered by fire and by fuel treatment, one would expect that scenic values would drive, at least in part, preferences for fire and fuels management. We will see in later sections that when landowners discussed and mapped their fuel treatment preferences, they did not single out their scenic views for special protection. It appeared that these cherished scenic values had little, if any, influence on views about fire and fuels and where specific management actions should occur. These maps of scenic views might be of use to a researcher investigating aesthetics among landowners in the Cabinet Mountains or

a manager who wished to understand what stakeholders thought of the presence of clearcuts in Libby's viewshed or even a real estate agent seeking to market the property. However, findings indicated that valued scenic views were not well linked to fire/fuels management preferences.

Figure 4.3 A map depicting the sweep of a scenic view enjoyed by one landowner couple.



4. Forest Product and Hunting Areas

Many landowners in this study described and mapped special places used for the harvesting of non-timber forest products (NTFPs) and wild game. NTFPs ranged from huckleberries to fossils to firewood. Hunting was also frequently discussed as one of the critical ways through which landowners interact with the land and get to know the forest. This

landowner, a commercial hunting guide and trapper, had an intimate knowledge of the land through his explorations on foot.

I stick to my area pretty much, because it's everything I need, and I don't travel around a lot. So I can tell you those parameters real well. I know them like the back of my hand...because that's my hunting area. And then I used to come all the way to this Loon Lake; over here was my hunting area. So that McGinnis, Elk [meadow areas], I know that extremely, extremely well. That was my living, you know. But, so I really, I've seen the forest mosaic over there. (L22)

His personal knowledge might be greater than most landowners' due to his vocation, but many landowners claimed to know at least portions of the Cabinets landscape as well as this man knew the whole area. Supplemental subsistence activities were very important to this rural community and influenced their overall landscape meanings beyond the scope of special places. This section focuses specifically on the special places that landowners valued for some of their most important forest activities, hunting and gathering forest products.

Although people might be expected to guard information about the places where they hunt and gather for fear of their discovery by others, participants in this study sometimes went on at great lengths to show the researcher these special places on the map. For example, this next map comes from a landowner who described his huckleberry gathering activities in great detail. For this man huckleberry gathering was an annual rite and part of "living traditionally."

Well, it's all important to me. But up in the Scenery Mountain country, this is all really important, because at one time this used to be really good huckleberrying right in here. And in Cedar Lakes it still is... My family is old-time huckleberries. I probably know more about huckleberries than most people in the world. (L31)

These places and the activities he associates with them hold great significance through memories, stories, and subsistence as huckleberry harvesting was something that he did all throughout his life with his family. The closing line indicates that this knowledge of huckleberries is even a part of his self-identity. He went on to discuss how the gathering ritual connected him to both his cultural heritage and the land. Through gathering huckleberries he came to know the land quite well, which is reflected in the incredible detail he has provided by marking so many individual locations in Figure 4.4 (below).

This next landowner made similar statements about how well he knew the Cabinets and the how important non-timber resources are to him.

I: Do you have any special places in this area?

***LI:** All of them are special. You know what I mean? Yeah, I've been on most of, in 20 years I've been on an awful lot of trails. I probably haven't seen all 100,000 acres or whatever it is, 90 some thousand acres, I haven't been on all of them, but I've been on a bunch of them. And I utilize the resources in terms of I pick huckleberries, and I hunt, and I fish, and I do all the stuff associated with that. And next year I'll probably be out there picking mushrooms.*

What made this landowner different was the fact that he chose not to map any of his special places because “all of them [were] special.” He could not just pick and choose which to leave in and leave out of the mapping, and he did not wish to show them all to the researcher. This reaction was not unexpected given the sensitive nature of such information regarding preferred hunting and gathering spots.

This category of special places, NTFP gathering and hunting locations, was somewhat more connected to fire management preferences than other special places. Many landowners described how fire affects game species as well as how huckleberry patches thrive in old burns

and clearcuts. However, when talking about hunting and gathering in the context of fire and fuels management, landowners did not exhibit preferences related to specific locations for hunting and gathering, nor did they refer back to these special places. This topic will be examined in depth in the next chapter. Like other types of special places, the location of hunting and gathering did not seem to influence views on fire and fuels, or the locations where certain management actions were deemed appropriate. Once again, the maps created by landowners herein could be useful to managers and biologists in other management settings, but these NTFP and hunting special places were closely associated with fire management perspectives.

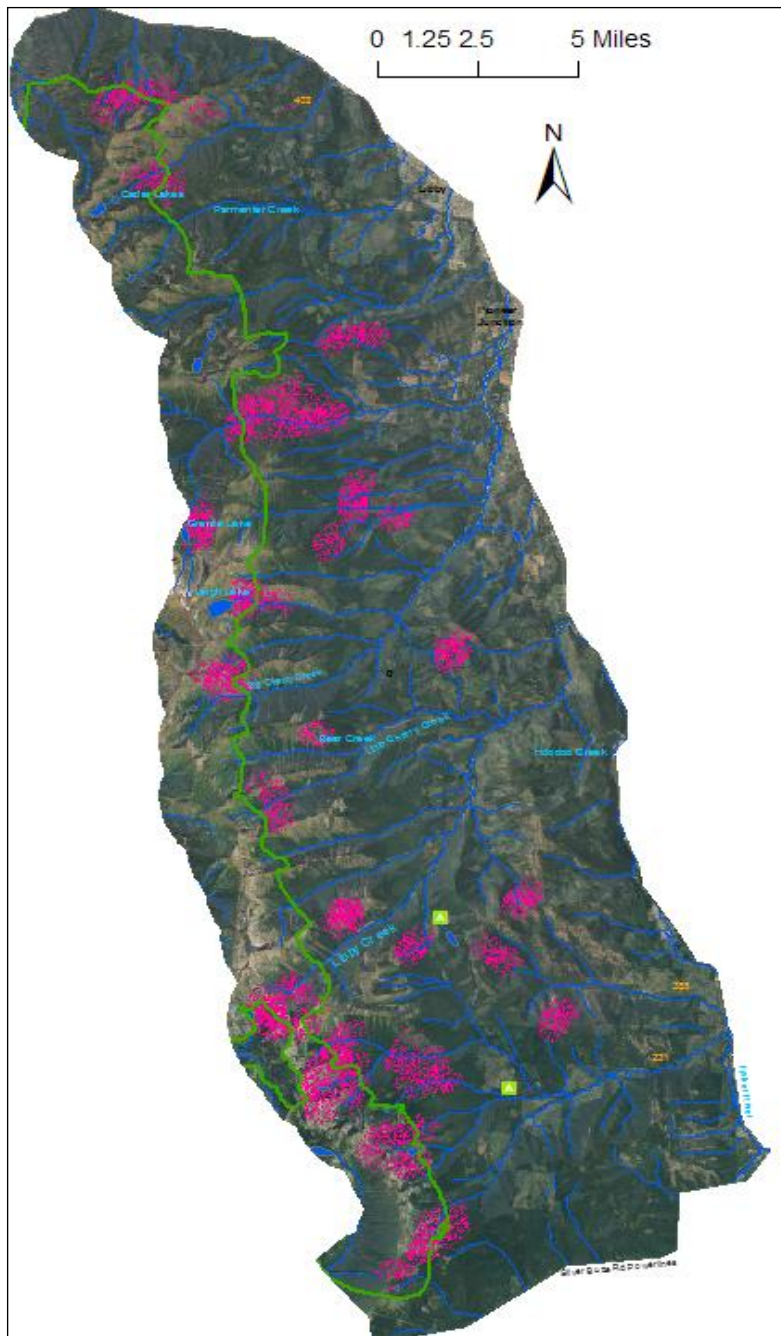


Fig. 4.4 One landowner's special places to pick huckleberries.

Special Places and Forest Landowners

Previous research on special places suggests that people's attachments to particular locations are connected to their preferences for management actions in those locations (Gunderson et al 2005, Moore and Scott 2003, Schroeder 2002). It follows that a special place, as a bounded physical unit, might be a tangible factor which could be easily accounted for in a land management strategy. For example, if a certain developed campsite in the national forest was found to be a place special to many families in the community, then managers could decide to devote extra resources to protecting that location from damage in the event of a threatening wildland fire.

As we have seen, landowners frequently attached multiple meanings to specific areas, as these special places were the site of annual getaways, family events, significant personal memories, and much more. Memories and meanings came to overlap through repeated experiences with the same spots, and special places took on greater significance than might be anticipated. Bear in mind that all participants in this study, save one, were all resident landowners, not just temporary visitors or recreationists, and many have a long and deep association with the landscape and their special places. As noted above, these special places were not closely related to views on fuel treatments.

Landscape-level Place Meanings

While small scale special places were important to landowners, relationships with the whole landscape of the Cabinet Mountains were more closely connected to management perspectives. When L31 above describes his special huckleberry spots, he says: "Well, it's all

important to me.” This was a critical and telling statement. Before that landowner would talk about the specific importance of huckleberries, he had to state that the whole landscape was important to him. This sentiment was echoed in various forms by most landowners. They were willing to create individual maps of special places but would always remind the researcher that “the whole thing” was tantamount. Many landowners went further and created separate maps describing the overall importance of the whole Cabinet Mountains landscape. The ways in which landowners privileged and prioritized the entire Cabinets landscape over specific special places are described below.

In addition to discrete special places, nearly all landowners indicated a broad attachment to the entire Cabinet Mountains landscape. In fact they discussed a variety of place meanings that were situated solely at the landscape-level. These landscape-level place meanings will be hereafter referred to as landscape meanings. These meanings, attached to a physically large area, were predicated upon particular locations within that area but greater than the sum of their parts. This landowner demonstrated this sentiment when asked how her special places influenced her ideas about management, saying:

Well, it is [all important], because everything is part of the whole. You can't look at it... I mean, you can. Of course you can analyze different areas. But everything is related to everything else. And it all has to be important. We can't just have this microbe focus on one, little area without taking everything into consideration. (L9)

Despite the range of special places described in great detail in the preceding section, some landowners such as L9 resisted identifying specific spatial locations as any more or less important than the entire landscape. In contrast, they asserted that an expanded focus on the

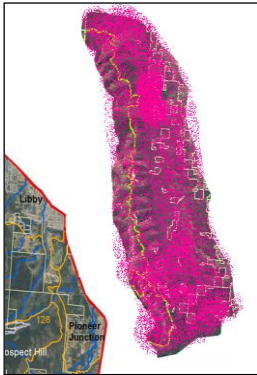
whole landscape was required even though they *could* identify specific special places if prompted by the researcher. They concluded that, while their favorite locations were important to them, management agencies must take a broader view of the whole landscape.

When the researcher probed regarding landowners' reluctance to map specific locations and their predilection toward the entire landscape, many landowners responded by further describing and mapping their relationship with the whole area. This next landowner steadfastly refused to mark special places on the map, commenting that to do so would run counter to his respect for the whole ecosystem as comprised of many unique components. Instead, like many participants, he chose to create this map (Figure 4.5 below) marking the whole landscape as very important. He discussed his rationale, saying:

If I was going to pick my special places...it's so hard for me to do. You're talking to a guy who loves it all. And I can describe each and every one of these peaks for you....you're talking to a guy who's stayed many nights along all of this [the Cabinet range] ...And I would have a heck of a time trying to pick priority [special places] over any of it. And why don't I do that? Now for those reasons that we just talked about: for the ecological diversity, for all the different components of these special areas that actually make them work. I would have to blot out all of those things, say that all of this is important. (L24)

This landowner could not mark his special places on the map for several reasons. Initially, he explained that it was because he had too many special places all over the area, none more important than the rest. He personally knew the land so well that it was an impossible task to prioritize them. However, he went on to explain that other factors, such as biodiversity, led him to map the entire landscape as very important. He felt that his map (Figure 4.5 below) was the only map that could represent his true feelings about the Cabinet Mountains landscape. Such maps covering the whole area pictured were common.

Fig. 4.5 Mapping the importance of the whole landscape



In contrast, this next landowner (L31) created six separate maps of his special places while simultaneously maintaining that the whole landscape was still the unit of most importance. To demonstrate this he concluded his place mapping session by making a final map of the whole landscape as very important, identical to Figure 4.5. To explain why it is all important this landowner connects his map of the whole landscape as important back to his earlier sentiments about home.

I: Why would you say the whole thing's important?

L31: Well, it's home. This is my forest, and this is really my home, you know. This is what I call my backyard.

Recall the earlier excerpt above in which the same landowner extensively described his feelings about his forest home as symbolic of family, nature, and peace. In that same passage he went on to say:

This is home. And it isn't just right here. This little piece right here that I pay taxes on, this is just a very small part of it. It extends all the way up into the Cabinets... So I've lived and worked all over the Kootenai National Forest. I was talking one time with [my friend]. I said, "We're probably two of the only people

left that pretty much walked every acre of this forest.” I consider this whole forest to be my home. I have special things that I do all over this forest, traditional things... I know it very, very well.

This landowner was able to extract components of his relationship to place and map unique special places, but in the final analysis he reiterated those components are only meaningful as parts of the whole. While one spot along the river may be meaningful as a place that he caught a big salmon one year, it is more important as a piece of his larger identity as a longtime forest dweller. It is both the special places that provide a sense of home, tranquility, and naturalness and the sum of these parts, the whole landscape. His personal experience of the whole forest provided an extensive knowledge of the land that enabled him to map and describe his special place. But that knowledge also pushed him to argue that just mapping his special places reduced the apparent complexity of his relationship with the Cabinet landscape. Many expressed similar ideas.

Although both of the landowners quoted above were long-time locals with intimate experience of the area, newcomers with less on-the-ground experience also spoke about their landscape-wide attachment. This newcomer admitted that, while she enjoyed occasional recreational outings, she placed emphasis on the importance of just *living* in the forest rather than knowing it all directly. When probed about her special places, she responded:

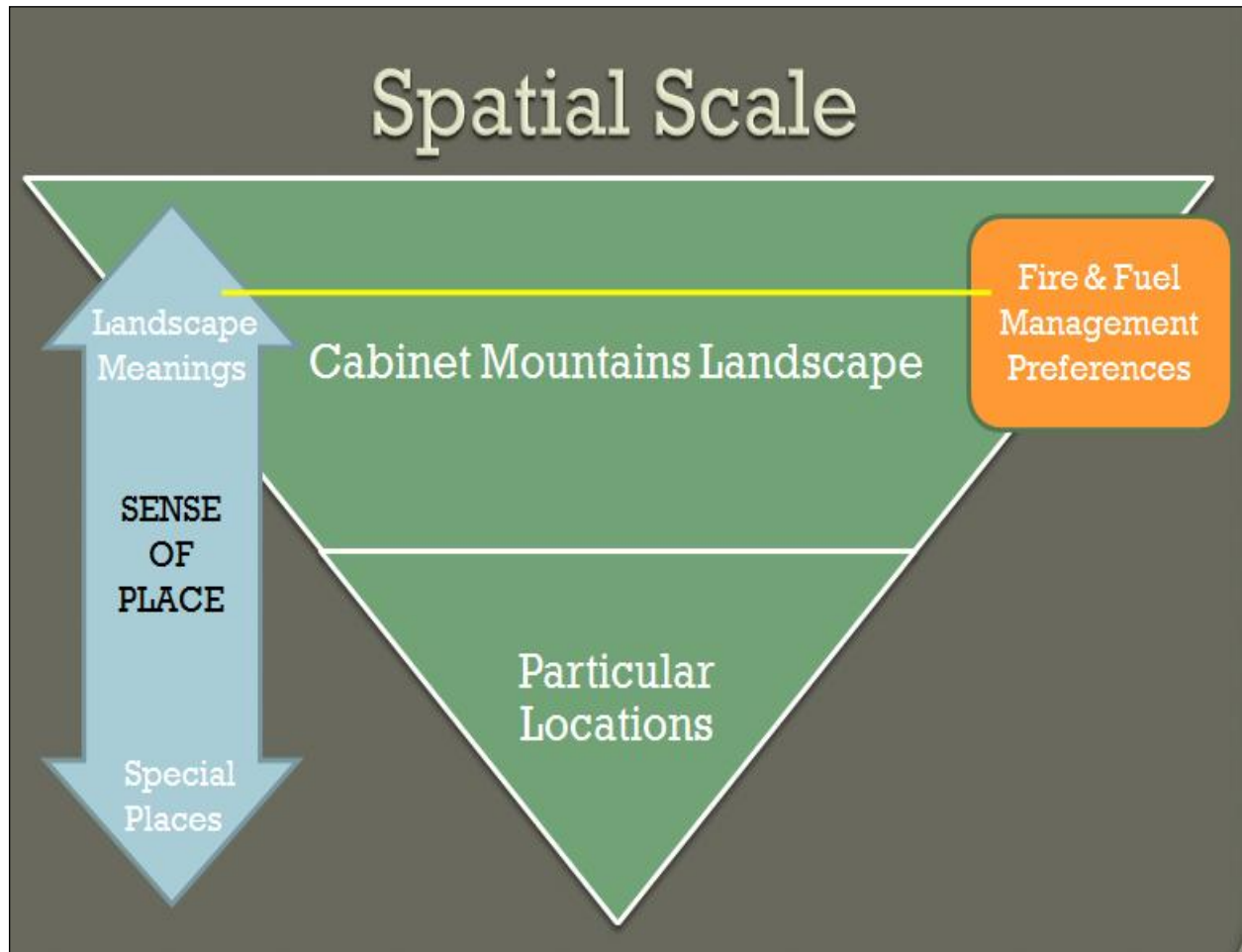
You can't single out a specific area in my mind that's better than another. It's all part of the package...It's all really important. I don't want to give it a lesser degree and say, well my place is more important and just, you know, 20 miles around is important. No, it's all important. It's all home...I can't say that I only want to take care of my spot, I don't care what happens to the rest. That's just so irresponsible to me. (L28)

For this newcomer and other landowners, landscape meanings were tied to larger issues such as ecosystem interconnectedness, community cooperation, or religious views. As demonstrated above, forest landowners overwhelmingly related to the Cabinet Mountains and Kootenai National Forest as a whole landscape. These landscape meanings and their connections to management are described in more detail in the next chapter.

Management Preferences Situated at Landscape Scale

In the preceding sections we learned that landowners attached to meaning to the landscape at a number of geophysical scales from the bounded to the broad. While special places were very important to landowners, relationships with the larger Cabinets landscape were also important. Most participants stated that the whole landscape was more important than special places in how they related to their environment rather than special places. Similarly, nearly all landowners demonstrated that they thought about fuel treatments at the landscape-level, rather than holding specific preferences for particular locations. Fire and fuels management preferences were investigated via interview questions and maps eliciting perspectives on three specific, hazardous fuel treatments. In this section, I demonstrate that most landowner fire and fuel management preferences were spatially situated at the Cabinet Mountains landscape scale. Figure 7, below, builds on Figure 1 to represent the relationship between place and fuel treatment, as it occurred at multiple scales. It visually represents the way in which management preferences were situated at the same scale as landscape-level place meanings. While special places were a component of an overall sense of place, the direct connection to management preferences occurred with place meanings at the landscape scale.

Fig. 4.6 Management preferences are connected to place meanings at the landscape scale.



Management Preferences Linked to Landscape Meanings

In this study of forest landowners around Libby, Montana, preferences for various approaches to managing hazardous fuels and wildland fire on the Kootenai National Forest were overwhelmingly situated at the landscape scale. Landowners were asked to discuss three fuel treatments actions and map where those actions would be unacceptable for management use,

according to the landowner. The first fuel treatment was mechanical thinning, whereby forest fuels are logged and removed. The second was prescribed burning, whereby a USFS specialist develops a site-specific prescription for an area, and a controlled fire is set to burn excess forest fuels if and when the exact conditions of the prescription are met. The third and final fuel treatment was wildland fire use, whereby a natural, lightning-ignition fire is allowed to burn unhindered inside a designated National Wilderness Area to achieve management goals. With all three of these options, nearly all landowners indicated broad spatial preferences, not geographically specific ones. Broad spatial preferences were associated with sweeping descriptions of the landscape such as “prescribed burning is inappropriate everywhere” or “everywhere except near residences” and so on.

Only one landowner indicated particular locations where a certain fuel treatment was unacceptable. Nearly all landowners tended to make broad generalizations regarding their stance on fire and fuels management and colored either big portions of the map or the whole map inset. For example Figure 4.7 (below) is a map created by a landowner who was asked to show where it was unacceptable for land managers to employ wildland fire use⁸. Forgoing the use of the larger, more detailed map of the Cabinet landscape, this landowner used the small inset to demonstrate that wildland fire use is very unacceptable for use by managers everywhere *outside* of the Cabinet Mountains Wilderness Area. Landowners talked about not having spatially specific preferences and therefore did not need to map in any level of detail. Recall this next

⁸ A management tool that uses a natural wildfire, such as those ignited by lightning strike, to reduce forest fuel load. Thus far, it is only employed in nationally designated wilderness areas.

excerpt from earlier in this chapter. It comes from a long-time resident of Libby responding to my direction that he mark the places on the map where he thinks mechanical fuel reduction (thinning) is unacceptable.

I don't think that I could say this mile wide band on my [property] perimeter is more important than what's up adjacent to the dam. It's not any more important than the whole thing. When I talk about that they need to be managing "it", "it" is all of it. They need to start managing the whole thing [the whole National Forest]. And this piece [indicating his private property] isn't any more important to me than beyond that. (L34)

This landowner could not conceive of divorcing the Cabinet landscape from the entire Northwestern Montana region in his thinking about fire and fuels management. During this excerpt the landowner clearly conveyed his dismissal of the idea in his words and body language. The notion that one person would expect management to accommodate his personal special place seemed offensive to him and his ideas of community responsibility and stewardship. He instead described the need for management that accounts for the whole landscape as greater than the sum of its parts.

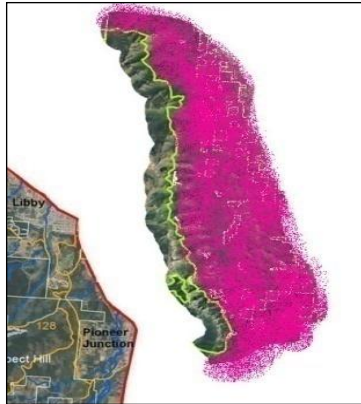


Fig. 4.7 One landowner's map of where WFU was unacceptable.

Nearly all landowners painted with a broad brush over the whole map and discussed landscape-scaled management practices instead of spatially specific preferences. Only one of the landowners revisited the special places they had mapped earlier to indicate that those particular locations were deserving of special management protection.

I: So is there anywhere on this map that it's unacceptable to you for thinning?
L10: *That blue spruce stand right down there, because the Forest Service does own some of the trees there right at the bottom of my property. I would hate to see that... I really believe in thinning. But I'm thinking if they remove [those trees] and then they happen to sell [property for development] along that Granite Creek Road, then I could see [the new homes]. I'm going to say unacceptable for that, otherwise I'm all for thinning. It's just that little stand, that little, tiny stand there. And it joins my property, so. It's just such a tiny, little bunch that I'd hate to see that touched.*

Later she added that if the Forest Service decided to cut that stand she “might like it and decide to [thin her] own trees” eventually. So this extremely discreet, site-specific preference for fire/fuel management was the only one of its kind among these landowners, and even then it was not necessarily a hard and fast decision by the landowner.

Exactly how each of the three proposed fuel treatments was mapped and why will be examined in the next chapter. The fundamental finding here was that nearly all spatial preferences for fire and fuel management were located at the landscape scale and not directly connected to special places, despite the fact that these special places were readily identified and important to many.

Conclusion

The main insights presented above are three-fold. Landowners had deep meanings, memories, and feelings attached to particular, small-scale places on the landscape. This was expected as landowners everywhere are indelibly connected to the landscapes they inhabit, sometime for long periods, even multi-generationally. Landowners in the Cabinets also described a rich relationship with the entire landscape that built on their special places but was a separate and unique attachment to the whole landscape. Finally, findings showed that fuel management preferences were situated at the landscape scale and connected to the aforementioned place meanings, also at the landscape scale. By extension, management preferences were not connected to special places for these landowners. Many landowners privileged the landscape-scale meanings explicitly stating that the whole was more important than the parts.

So what does the fact that management preferences are connected to place meanings at the landscape scale tell us? Findings indicated that the ways in which landscape-level place meanings and preferences for proposed management actions interacted at a higher spatial scale was related to complex sets of meanings, values, beliefs, and interests. These constellations of

meaning were linked to two, distinct narratives about the landscape and a relationship with the land based on a stewardship ethic espoused by many landowners. How these landowner and community perspectives are tied to management and decision-making will be explored in the following chapters.

While these narratives may sound removed or abstract when I describe them, in fact they are very real for landowners as part of their worldview and are grounded in spatial locations on the forest landscape. Sometimes these locations in space are small scale, and when people care about them they are referred to as “special places.” In this study, all landowners had small-scale special places. Frequently, landowners wanted to tell me that the whole landscape was a special place itself. I called those feelings “landscape-scale place meanings” or “landscape meanings.” In the end, I realized that when landowners talked about what they prefer to see the Forest Service do about potentially dangerous levels of fuels in the forest, they almost all talked about landscape meanings, but very few talked about special places.

Chapter 5 - How Alternate Views of the Forest Landscape Explain Fuel Treatment Preferences

As demonstrated in the preceding chapter, place meanings among landowners in this study were situated at multiple, geospatial scales. Contrastingly, landowners' fuel management preferences were primarily situated at the landscape scale. This chapter will examine the connections between landscape-scale fuel management preferences and two landscape narratives, working and natural, that emerged from the interviews. The working and natural landscape narratives draw on fundamental ideas about the nature of fire, aesthetic values, and proper stewardship. As will be demonstrated below, when landowners discussed their fuel treatment preferences they drew on these landscape narratives, and in particular their ideas about stewardship, to explain, justify, and support their views. Below I describe three of the themes - the nature of fire, aesthetic values, and stewardship ideas - that weave through the landscape narratives presented in this chapter.

The Nature of Fire

One of the key themes that weaves through the two landscape narratives described in this chapter is views on the nature of fire itself. Particularly, landowners evoked these views when they described their fuel management preferences. While landowners held some common perceptions of fire, they also diverged in important ways in their views of fire and its role in the Cabinets. These commonalities and differences help us understand the different views on fuel treatments described later in this chapter.

All landowners recognized fire as a fact of life on the Cabinets landscape. This sentiment is illustrated by this landowner, “Fire is just going to happen. We’re going to have another bad fire year like 1910” (L34). This landowner describes a widely held belief in the imminence of a catastrophic fire, often referred to as the “Big One” by landowners. When landowners discussed the Big One they often cited the devastating fires of 1910 as precursor of another large, intense fire.

And hopefully this whole place doesn’t burn down again like 1910. The stage is set... And so while I’m not afraid of my home, I’m afraid of everybody else’s and the reality of what will happen. It’s going to look like the moon when it gets done. (L14)

Some landowners suggested that Libby and its residents were “doomed,” describing this future fire event as “stand-replacing.” Additionally, nearly all landowners talked about the ways in which accumulated forest fuels and other ecological and biological conditions added to the problem of an upcoming, catastrophic fire.

Now we have a fuel problem, and anybody who works out there has known that for a long, long time. And the question isn’t if, but when we’re going to do a clean and how hot, how huge? We have 500 to 600 tons of debris to the forested acre now. (A1)

Landowner awareness of hazardous fuel conditions and their potential consequences is consistent with previous literature on the subject (Nelson et al. 2005). Beyond an acceptance of fire as part of the Cabinets landscape and the expectation that the Big One is coming, landowners diverged considerably in their beliefs about the essential nature of fire. These different ideas about the nature of fire were oftentimes related to working and natural landscape narratives and help explain fuel treatment preferences, as described below.

Forest Aesthetics, or the Value of a Scenic View

In addition to ideas about the nature of fire, landowners also drew on aesthetic values and preferences when discussing fuel treatment preferences. Oftentimes landowner aesthetics were closely tied to the landscapes to which they subscribed, working or natural. All landowners discussed aesthetic appreciation of the forest landscape and scenic views. Many landowners appreciated the beautiful surroundings as the “backdrop” to their lives or setting for a scenic drive on the weekend. Some landowners discussed primarily enjoying the Cabinet Mountains landscape via appreciation of majestic mountain and forest views. As described below, aesthetic values did not drive fuel treatment preferences, but they were related to certain views on fire and fuels. Despite their being a somewhat secondary factor, differences in aesthetic preferences are woven throughout excerpts from landowners and provide insight into landscape narratives and fuel management preferences.

The Ethic of Stewardship

Stewardship emerged as even more important than aesthetic values and ideas about fire. Many landowners framed their fuel treatment preferences in terms of stewardship. They spoke extensively about the importance of stewardship to them as individuals and to the community. In this study many landowners described themselves as “stewards of the land”; many of them added that mere residence on the land necessitates the stewardship responsibility. For nearly all landowners “stewardship” meant “proper management” of the forest and wildland fire. Forest landowners had definite ideas about how fuels and fire should be “properly managed” by the Forest Service. Every landowner implied that his or her choices were the best ones for the land and community as befitting a “good steward.” However, what constituted “good stewardship”

and “proper management” varied between landowners that envisioned the working landscape versus the natural landscape. Correspondingly, landowners’ management preferences that were linked to alternate definitions of stewardship also varied. Below I demonstrate how ideas about stewardship were inseparable from landscape meanings and help explain fuel treatment preferences.

Alternative Views of the Cabinet Mountains Landscape

Ideas about the nature of fire, aesthetic values, proper use of the forest, and stewardship ethics were woven into two intertwined, landscape-scale meanings: 1) the working landscape and 2) the natural (or ecological) landscape. See Figure 5.1 below for a visual representation of this relationship. The working landscape drew heavily on ideas about sustainable production, the value of resource use, and active management. The natural landscape emphasized resource conservation and hands-off management, except when necessary to protect residential development. Landowners sometimes drew upon both narratives when they discussed the features of land, their special places, and what the Cabinet Mountains meant to them. While there may be some overlap between these narratives for some landowners, these landscape meanings each told a different story about the national forest and its most appropriate use. When talking strictly about forest management, most landowners situated their views more strongly in one narrative than the other. Figure 5.2 (below) illustrates how many landowners strongly subscribed to the natural landscape, how many subscribed to the working landscape, and how many drew on both narratives and are thus situated on the middle of the spectrum of landscape views. However, for ease of analysis and communication to the reader, these narratives have been teased apart and are considered separately in this chapter.

These working and natural landscape narratives were strongly linked to views on fire and fuels. Landowners invoked or drew on these landscape narratives to support, explain, and justify their ideas about proper stewardship and their fuel management preferences, as will be demonstrated. Each landscape narrative will be described in detail below and then connections between landscape narratives and views on different fuel treatments will be examined.

Fig. 5.1 Landscape meanings and management preferences linked through landowners' fundamental ideas about the relationship between humans and nature.

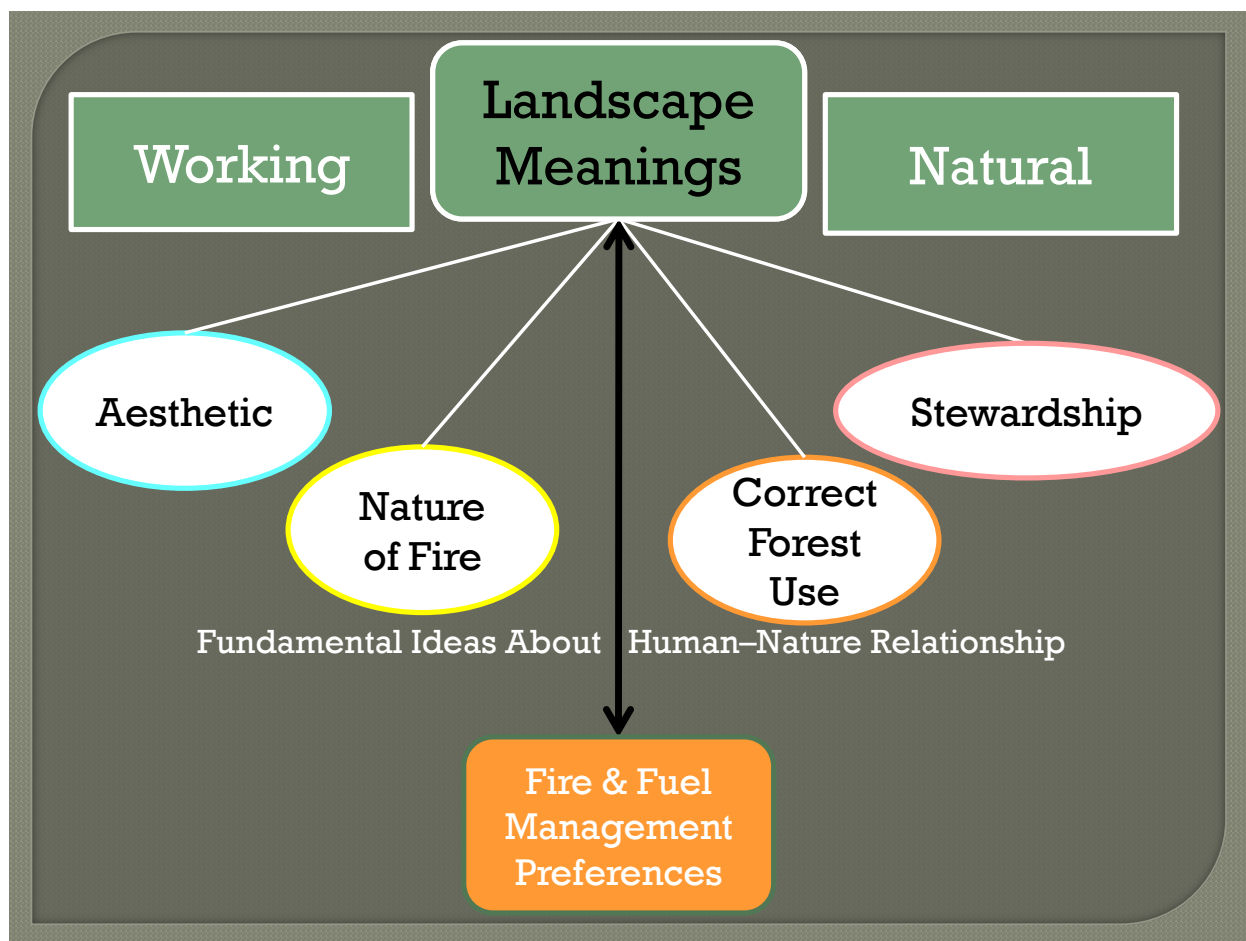
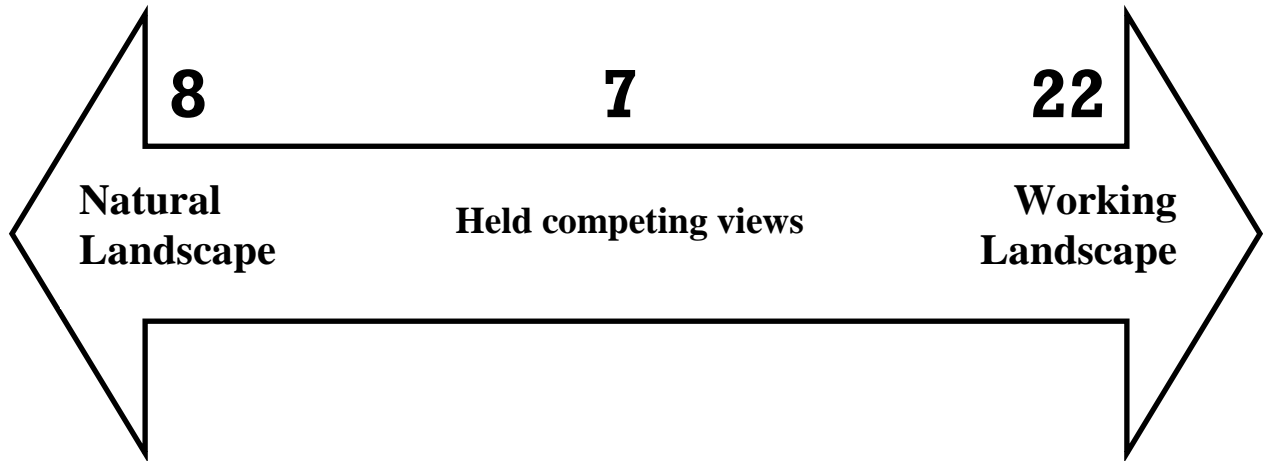


Fig. 5.2 The distribution of landowners across the range of landscape narratives.



The Working Landscape

The working landscape was the most commonly articulated narrative, and refers to a constellation of meanings that privilege human livelihood and use of forest resources. When creating this narrative, a landowner described the national forest as a place of abundance which produces many goods and services for human consumption. However, human labor must be added to this landscape in order to wrest a living from it. Consistent with previous literature, long-term landowners frequently described a “landscape of production” (Nelson 2001), what I will refer to as a “working landscape.” However, some newcomers also invoked a working landscape or discussed the area’s history of work and resource extraction. The working landscape was the most discussed landscape meaning, and it was also referenced frequently

when landowners mapped their management preferences. The next section will discuss historical origins of this landscape narrative and its commonly associated elements today.

Working in the Woods - Roots of the Working Landscape Narrative and Stewardship

The narrative of the working forest was connected to positive associations with livelihood from commercial timber operations as well as usage of forest products to supplement primary income. The narrative of the working landscape has deep roots in the Libby community and is an important part of the Libby identity. As one landowner pointed out: “How does the community identify itself? Workers would sweat producing materials for a productive society.” (L34) Many landowners did at one time, or still do, make a living based on the commercial extraction of natural resources from the Cabinet landscape. The belief that the forest is a place for work was deeply intertwined with the life of the community, especially among its older inhabitants and multi-generational families. For many landowners, new and old, the forest provides resources for their benefit, including non-timber forest products and wild game, which can supplement income. The gathering of forest products, such as huckleberries and fire wood, is an important link to production for people who “see” the forest as a place of work, even if they no longer work there.

Until recent decades the livelihood of most families in the community was somehow related to “working in the woods.” This landowner, who worked at the fuel pellet mill, describes Libby as place that can *only* sustain itself by extracting natural resources.

We're a resource base county. That's all we are. Now part of our resources are the beauty of it. Granted, we got water and mountains and glaciers and all that. But that doesn't put beans on the table for people that want to live here. If we

wanted to just turn the county into a great park for the nation, well, that's a whole 'nother story by itself. But we're a resource-based community. We extract trees.
(L3)

These landowners described a tension between those who wish to make a living from the land, those who advocate an alternative economy based on natural amenities, and those who advocate for protective designation. This couple, the husband born and raised in Libby and the wife from eastern Montana, described the tension between the working landscape and other views.

L34: Special places don't have to have an absence of our footprint. It would be nice just to be able to do things in a way that it's not damaging.

L35: But to leave it better than the way you found it in years to come.

L34: I don't want to see the Cabinets logged. I really don't. But also I don't think it's. . . One place the environmentalists could see growth is to find a reverence in human beings interacting with the forest in different ways. And for them to find reverence it has to be totally secluded, devoid of human interaction and human developments. So I think it would be nice if people could see their special places embracing being touched by humans, whether it be by logging, mining, something. And I'm not saying that for everywhere.

The husband opens this passage by emphasizing that his own special places do not have to be devoid of human activity to be worthwhile; some logging is acceptable. Human activities do not necessarily degrade a sacred place in his view. He then introduces the idea that political differences could be addressed if “environmentalists,” people he characterizes as opponents of the working landscape, could value places of production. Immediately, he and his wife both qualify his statement by placing limits on the human “damage” and adding that one should leave a place “better than you found it.” They are arguing for sustainable use of the forest and its resources, a key component of stewardship in this narrative. At its core the working landscape narrative is about reconciling the consumption of natural resources and human needs with the needs of the land and wildlife. Most landowners who described the area as a working landscape

articulated a vision of stewardship that involved sustainable use, sometimes implicitly, but frequently explicitly as well.

Cornerstones of the Working Forest Narrative

Other common elements of the working landscape narrative included a utilitarian perspective regarding natural resources, a preference for active management, a belief that humans have dominion over the land, a general distrust of fire, and an overwhelming preference for forest thinning. This young landowner from a multi-generational logging family articulated a very complex relationship with the landscape grounded in the working landscape narrative:

The biggest problem that I see with the tourist, the biggest problem with them is they come here, the out-of-staters, a lot of time, and they say, "I love the place. I love what you've done with it. Stop doing everything." And that's their solution. "I don't want to see another tree cut. I don't want to see another deer shot. You've got it just how I like it". And I understand what they're wanting. I understand what they're getting at, because of the value of feeling like you can walk back in history. But to me, I don't feel like I don't get to . . . Seeing a stump, stepping over a stump in a selectively harvest stand of timber, to me, is just as historic, because we've been doing it now for, well, a couple hundred years. And it doesn't take away from it like other people. Other people, they see any type of human impact, because they believe that man is not a part of nature. They believe that man is apart from it. And that I can't help them with. But to me the aesthetic value of going out, I like to see when it's managed. It makes me feel good, because I know what I've done for the wildlife. I know what it's doing for my consumption. And I know what it's doing for the place, the other people that live here, the kids that are growing up. They get to benefit from it. (L14)

He described the interaction of human, wildlife, and forest as a mutually beneficial flow of goods and services. This landowner viewed productive, human use of the land as woven into the historical fabric of the landscape by more than a century of silvicultural practices and local knowledge. He also contrasted his deep knowledge of the land with the beliefs of nonresidents,

who he argued imagined the Cabinet landscape as pristine. Among landowners who saw the forest as a working landscape, there was a common belief that “man is not apart from nature.” This belief stands in stark contrast to some ideas espoused by landowners who described the natural landscape, as will be discussed in a later section.

Additionally, the landowner quoted above touched on his aesthetic values. His aesthetic incorporated evidence of human activity. He described an aesthetic preference for a managed forest landscape. He likes seeing a properly thinned stand because he believes that the managed forest provides better wildlife habitat, jobs for the community, and fiber for human uses. This landowner does not see a tree stump, objectively indicative of a logging job, as ruining a natural aesthetic. Instead, the stump symbolizes the ability of nature and humanity to coexist in a mutually beneficial relationship. This belief in reciprocity and an aesthetic that includes human-caused, landscape change were cornerstones of the working landscape narrative. The ideas and meanings described by many landowners were connected to their preferences for fuel treatments, as described below.

Fire was a contentious subject for working landscape landowners. Management decisions that allow the forest to burn were widely seen as improper management. Referring to prescribed burning on the National Forest, one landowner said:

I think that's poor management. We're stewards of the land. If we weren't going to be stewards of the land, then we shouldn't be here, and we should just let nature take its course. But we are. We live here, and we have a responsibility.
(L5)

For many landowners who saw the landscape as a working forest, stewardship was seen as human intervention in the processes of nature to improve the land for everyone's benefit, including non-human entities (i.e. wildlife, the forest itself). For this group of landowners, stewardship of the land is a promise to harvest the forest sustainably, to ensure a continued flow of timber for the benefit of the human community and to protect the forest from overstocking, disease, and fire. The working landscape narrative evokes a Judeo-Christian understanding of stewardship in which humanity actively manages the landscape for continued human benefit. Wildland fire was seen as a violation of this stewardship imperative and therefore unacceptable.

Fuel Management in the Working Landscape

The working landscape narrative was explicitly connected to management choices among forest landowners. The resolute belief in the working forest narrative by many landowners and their views regarding the consequences of not “properly managing” (read: commercially logging) the Cabinets Landscape were closely linked to management preferences.

Thinning

For those landowners who invoked the working landscape, thinning was heavily preferred to any other method of fuel reductions for three main reasons. First, it provides economic benefit to the community. Second, it reduces the hazardous build-up of forest fuels that is setting the stage for the Big One, according to many landowners. Finally, many landowners expressed an aesthetic appreciation for a thinned forest with wider spacing between trees.

The landowners who saw the forest as a working landscape expressed strong support for mechanical thinning to reduce hazardous fuels. According to these landowners, fire, be it natural

or prescribed, wastes “precious commodities” (trees), and is therefore not a legitimate management tool. Many landowners saw fuel reductions through thinning as a way to return to higher levels of commercial logging. Some landowners described thinning as a “win-win” scenario because timber commodities can be used commercially to boost the local economy while fire hazard is reduced at the same time. This next landowner created a map showing that mechanical thinning is acceptable everywhere and expressed a common view to explain his management preference:

I think there should be more commercial logging and maybe not as extensive as it was in the '50s and early '60s. But if an area is logged and cleaned up afterward, it certainly reduces the fire hazard. (L21)

He recognized that logging output will not be as high as it was in the past, nor would he expect it to be. According to this landowner, more commercial logging reduces the fire hazard, so mechanical thinning is acceptable anywhere on the Cabinet landscape that it is feasible. This next landowner supported thinning so much that he mapped thinning as acceptable even in the Cabinet Mountains Wilderness, despite acknowledging that it “won’t happen there anyway” in an aside to the researcher. He said,

But I think [not thinning and allowing trees to burn] is wasting resources. And in wasting the resources, you also allow the ground fuels to accumulate and so when you do have the fires, they’re just that much worse. It needs to be harvested rather than wasted. (L4)

This landowner described a common view that not utilizing mechanical thinning wherever the forest needs to be better managed is both wasteful and leads to wildland fire. He directly linked the lack of logging on the Cabinet landscape with more destructive fires. For nearly all working

forest landowners, the consequence of not doing more mechanical fuel reduction was catastrophic fires.

A common refrain among many landowners was that the disappearance of logging as a livelihood and lifestyle was connected to an increase in wildfire frequency and severity. This landowner explicitly connects these changes, saying:

Logging is dead. The environmentalists got it shut down so there is no management of the national forest. There is none. There is no management. That's why they're letting these fires burn. And the reason we're having these fires is because of the fuel load. There's a catastrophic fuel load out there... and that's why we're having these devastating huge fires. (L16)

Logging, herein synonymous with management, is mostly gone from the Cabinets landscape. According to many landowners this decline is largely due to “environmentalists,” characterized by many landowners as the enemy of the logger. This man concludes that hazardous fuels have been allowed to accumulate on the forest because of the decline of the working landscape and actual logging operations. Accordingly, because trees are not being cut down to thin the forest, the Forest Service (“they”) is using fire to reduce the fuel load. However, this landowner and others saw the lack of fire suppression combined with an overload of fuel as a recipe for catastrophic fires. This viewpoint was strongly connected with the belief that more fuel reductions through thinning could be a “cure-all” for a poorly managed, fuel-laden forest that is on the brink of a catastrophic fire.

Many landowners who advocated for the working forest and for thinning for fire prevention connected these ideas to an active-management stewardship ethic which they touched

on throughout their interview. The following landowner compared the forest to a garden that must be tended to reach its full potential.

But I'm worried that we don't have any way of trying to help Mother Nature along. You can't plant a garden and let it go. I mean, it doesn't work. And we've got a forest out here that Mother Nature's planted, and then we're trying to let it go, and it doesn't work. You've got to get out there and do something with it now and then. (L3)

He argues that it is “Mother Nature’s” forest, but human intervention is necessary for the forest to “work.” This belief was connected to his preferences that thinning should be conducted anywhere that it is both physically and economically feasible. Strong support for thinning was very common among working landscape adherents.

Land managers are often concerned that thinning will upset local people if the result is not aesthetically pleasing. But many landowners, especially long-term residents who have seen the forest cut and regenerate many times, described a “thinned out” forest as more aesthetically pleasing, if the job was done well.

L20 I don't think that [thinning] would hurt a thing. It wouldn't change the view.

L19: They could do more logging in there or thinning.

L20: It wouldn't change the view. They've done quite a little bit in there already.

L19: Yeah, they have. Most part I think thinning only helps, keeping in mind my objections, of course.

L20: Thinning that's well done only improves the appearance.

Mechanical thinning typically results in a forest that has a “park-like” appearance with wide spacing between trees and low ground fuels. Many landowners admitted a preference for a forest that is “parked-out,” in local parlance. This finding is convergent with previous literature that forest dwellers prefer an open, park-like atmosphere and that thinning can positively contribute

to that effect (T. C. Brown & Daniel 1984). While aesthetics were not the most important consideration for landowners who supported thinning, this finding is important for land managers attempting to anticipate local conflicts. For the most part, the discussion of aesthetics was prevalent in the sample as a whole but not weighted heavily when landowners described their thoughts about fire and fuels.

Only one landowner in the working forest narrative privileged her personal aesthetic values in her decision to exclude thinning from the National Forest near her home. In this excerpt, she vacillates between desires for scenic beauty and fire protection. When asked what areas are not acceptable for thinning during the mapping exercise, she replied:

That blue spruce stand right down there, because the Forest Service does own some of the trees right at the bottom of my property. I would hate to see that cut. Well, I guess if they helicopter logged it, it would thin it out though. It might not be so bad, really. I would probably follow suit with mine. I really believe in thinning. But I'm thinking if we remove that and then they happen to sell along that Granite Creek Road, then I could see [the new development]. I'm going to say unacceptable for that, otherwise I'm all for thinning. It's just that little stand, that little, tiny stand there. And it joins my property. It's just such a tiny, little bunch, but I'd hate to see that touched. (Daisy)

Early in the interview, this landowner had pointed to the same stand of spruce trees and indicated that lightning could easily strike the tall trees and start a fire that would threaten her property. She acknowledged the tension between protecting her view from future development and protecting her property from fire, and ultimately chose the scenery as most important. This was the only time that a working forest landowner indicated thinning should not alter a specific place to guard her personal scenic amenities. Bear in mind that is also the same respondent who was the only one to reference her special places in the discussion of fire. In this case the aesthetics of

her special place seen to be driving her management preferences rather than a landscape-scale view. This was not a common perspective in the sample of working forest landowners.

In summary, landowners who believed in the working landscape were also the most ardent advocates for mechanical thinning of hazardous fuels. Some landowners preferred thinning because it would boost the local economy while reducing fire hazards. Others felt that thinning resulted in a more aesthetically pleasing forest appearance. Some landowners likened thinning to tending a garden or managing a farm. Finally, and perhaps mostly strongly, working landscape landowners discussed the belief that not thinning and allowing timber to burn was waste of useful resources.

Prescribed Burning/ Wildland Fire Use – Fire as Enemy of the Working Landscape

Prescribed burning and wildland fire use were treated as equally unacceptable by working forest advocates. The maps they created for the two management options were very similar. Many of these landowners described fire as the “enemy” or generically “bad.” Landowners described two dominant reasons for rejecting burning as a management tool. First, fire is viewed as wasteful of forest resources which could be harvested for commercial use instead. According to these landowners:

I don't see why would they use a prescribed burn if they could do the same thing by utilizing some kind of economic resource by farming it. I'm not as much of a proponent of fire, because I've always seen fire as one of the biggest destroyers of the merchantable timber. It has a lot to do with how I was schooled when I took forestry courses. (L36)

[Wildland fire use is] totally unacceptable for any other area [than the wilderness], because all that timber should be being harvested and very little of it is. (L19)

These landowners argue against prescribed burning and wildland fire use based on purely economic rationale. Their argument is hinged upon a commodity view of natural resources, in this case trees or wood fiber, a view that is a critical component of the working landscape narrative.

A second argument against fuel reduction via burning was that allowing fires to burn, even under supervision, is mismanagement and a violation of the stewardship responsibility.

I would say it's a mismanagement concept to not take care of a fire in our natural resources. That's mismanagement...And so I would say we need to deal with those wildfires in our wilderness and parks areas. Look what happened in Yellowstone. Raised hell... We have the facilities to manage now, and so for all purposes our wilderness areas are areas of mismanagement, because there's no management. "Leave it alone"? Really, it's more precious to me than that. That's pretty precious stuff. So why should we just let it recklessly burn? (L25)

He points to the devastation in Yellowstone in 1988 when the National Park Service allowed a natural fire to burn. This fire expanded into to a nationally publicized and widely lamented stand-replacing fire. He mapped both prescribed burning and wildland fire use as unacceptable everywhere in the landscape arguing that wilderness must be preserved from fire. Wildland fire use and prescribed burning were widely described as mismanagement by the Forest Service by those landowners who saw the forest as a working landscape.

It is important to note that some landowners who espoused the working landscape narrative were supportive of wildland fire use in the designated wilderness area while still finding it unacceptable everywhere else on the landscape. Generally, they saw the wilderness as an area where work/logging/management were absent by definition or for practical reasons such as inaccessible terrain, as mentioned below. Whether they agreed with the political designation

or not, they acknowledged that by law the wilderness is not part of the working landscape. Therefore, it was perfectly acceptable for the USFS to allow natural ignition fires to burn in wilderness. This landowner, an independent logger, mapped wildland fire use as very unacceptable on the whole map, *excluding the wilderness*. He explained this choice, saying “I don’t have any problem with letting [fires] burn where it isn’t commercially feasible to log...” (L19) In his estimation, the trees in the wilderness area are not going to be harvested, so “we might as well let them burn.” This stark contrast between management preferences for the wilderness versus “regular” national forest highlighted that the working landscape was spatially situated on that portion of the Cabinet landscape that could potentially be logged and actively managed. Many landowners who predominantly invoked the working forest narrative did see the wilderness area as a separate, natural place as well.

Management Preferences and Fundamental Ideas linked to the Working Landscape Narrative

Many landowners drew heavily on idea, beliefs, and meanings embedded in their preferred landscape narrative, the working landscape, when explaining their desired fuel management actions. An important part of the working landscape narrative was the idea that the proper stewardship involves actively managing the forest for the betterment of all. This was connected to a commoditized view of the forest landscape in which thinning was widely supported to reinvigorate the local economy, make gainful use of timber resources, and protect both trees and people from fire. Fire was seen as bad and destructive, a wasteful force that must be suppressed by humans. These views were expressed by nearly all working landscape adherents. See Figure 5.3 (below) for a quick summary of these ideas. In addition to supporting

thinning, landowners who described the area as a working landscape generally disapproved of prescribed burning and wildland fire use (except, for some, in the Cabinet Mountains Wilderness). See Figure 5.4 (below) for a review of the management preferences linked to the working forest narrative.

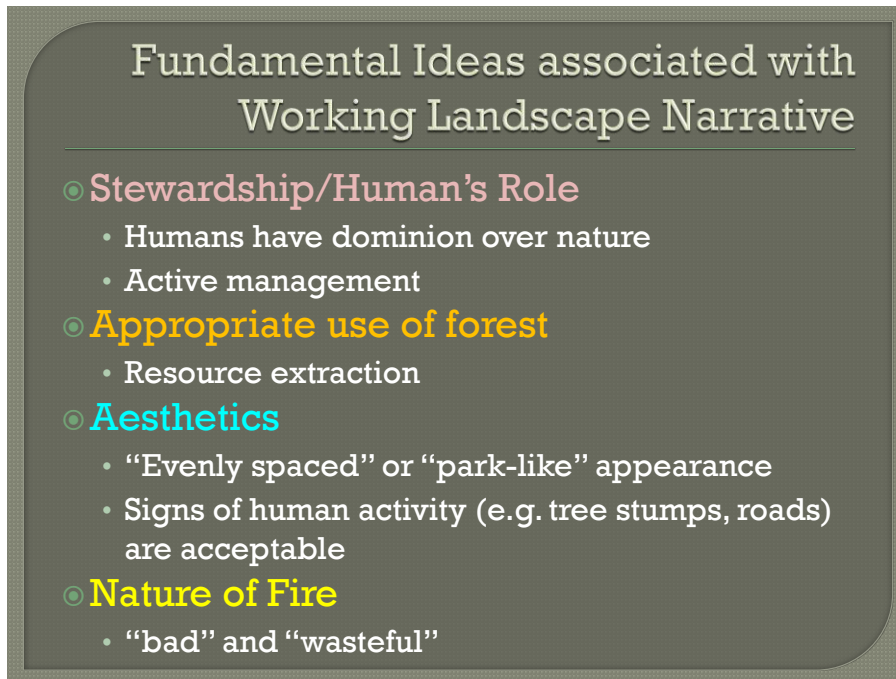


Figure 5.3 Fundamental ideas associated with the working landscape narrative.

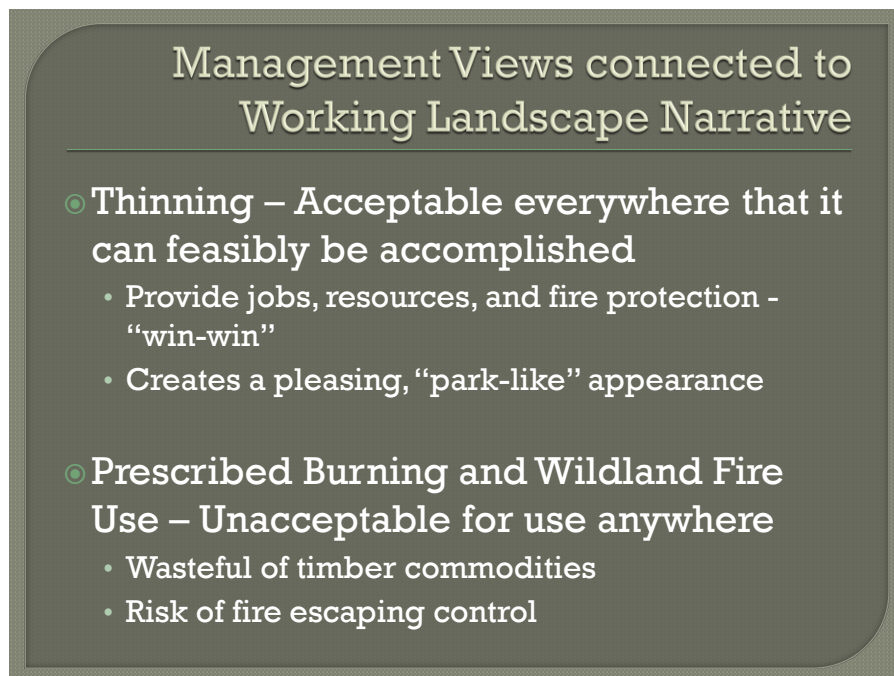


Figure 5.4 Management views connected to the working landscape narrative.

The Natural Landscape

An alternate, and to some extent competing, landscape narrative was described by a different group of forest landowners. Although not as prevalent as the working landscape, the natural landscape was discussed by some forest landowners, and it was connected to views on fire and fuels management. Some landowners saw the Cabinets landscape as a “natural” or “undeveloped” place and connected ideas about stewardship to ecological or preservation principles. Similar to landowners who saw a working landscape, natural landscape adherents also expressed their belief that they must be “stewards of the land.” However, unlike stewardship that safeguards human interests and commodities, stewardship of the natural landscape was a

responsibility to care for the land for its own sake, or existence value. Human management was still an element of the natural landscape. Some landowners that described the natural narrative believed that active management could restore balance to an ecosystem “degraded” by decades of resource extraction, according to them.

As we saw in the previous chapter, most landowners indicated that the whole Cabinets landscape was important to them. When landowners who drew upon the natural landscape narrative explained this landscape scale place attachment, they frequently cited ecological reasons such as “presence of wildlife,” “protecting the watershed,” and sensitive riparian habitat. Additionally, some landowners marked the Cabinet Mountain Wilderness as very important simply because “we need places like that” (L6). Oftentimes they discussed the need to experience solitude or nature. Nearly all landowners, including many who also discussed the working landscape narrative, described the preservation of the Cabinet landscape’s “raw,” “primitive,” or “wild” character as an important component of their sense of place. Some forest landowners actually “saw” and discussed multiple landscapes. While these different landscapes, such as the working and natural landscapes, were in some senses competing, and landowners themselves sometimes described contradictory views, most tended to favor one particular landscape view over another.

The Natural Landscape defined in opposition to the Working

Earlier I described how the working landscape narrative retains its prevalence among landowners in Libby despite the actual decline of jobs in the woods. While some landowners who saw the forest as a natural landscape were able to reconcile themselves to a past of heavy

resource extraction, not all of these landowners accepted the historical use of the forest as appropriate use. Some landowners explicitly described the history of resource extraction on the Cabinet landscape as exploitation, “rape of the land” or “flat-out wrong.” At the same time, some of these landowners also described the landscape as “wilderness” or “pristine,” even though the previous use of the land for resource extraction clearly violated the definition of these concepts. This newly arrived landowner articulated a perspective common to natural landscape adherents.

We [humankind] haven't left our energetic imprint a lot here yet, except for, unfortunately, a lot of the negative energetics that came with coming here and just exploiting: exploiting the land for wood, for gold, for silver, for vermiculite. Until now Libby has been nothing but, in my opinion, a place of exploitation of the wilderness. And I think that that needs to be completely changed, and there needs to be a healing going on. It's been exploited. People haven't come here and lifted her up. They've come here to take. And yet she still is magnificent. She doesn't look depleted when you look at her. I'd rather us be here as stewards. (L12)

According to this landowner, people have injured the land via resource extraction and only been exploiters of the land. In contrast to other landowners, she did not see timber harvest as good management that improves the forest. Instead, she believed that people should act as good stewards by reversing the effects of resource extraction and healing the land. This is a very different definition of stewardship than the one implied by the working landscape narrative.

Another landowner said, “We’re all stewards of the land. It doesn’t mean you have to rape it” (L4). He also viewed the clearcut-style logging typical to the Kootenai as a damaging activity he referred to as “rape.” Many natural landscape landowners defined their ideas in opposition to the working landscape, even while acknowledging the historical prevalence of the working forest in the Libby community. It is important to remember that both natural and working forest advocates use the same language of stewardship to support their ideas.

Humans Living Apart from Nature

A few landowners, all of whom were newcomers, described a feeling that they were human interlopers who did not belong in the natural landscape. According to these people, the role of humans in the forest should be either non-existent or limited. When discussing her disapproval of wildland fire use, this landowner delved into her complex relationship with the natural world.

I understand that [fire] is natural. But I have a hard time with that because we are all infringing on the national forest. I am. I know I am. But we were a homestead that was there before. So on the one hand you can say, well we're the people who shouldn't be there. Yeah, we probably shouldn't. But I don't want to see my place go. I don't know (L10)

For this landowner, fire is clearly a natural process. On the other hand, humans are not seen as part of the natural world, according to her. As someone living surrounded by the national forest, she saw herself as “infringing” on the natural world. In seeming contradiction, this landowner went on to rationalize her own presence based on her home being an old, established “homestead.” She concluded that she would still lament the loss of her own home to wildland fire, even though she believed that people should not live in the WUI in the first place. While most landowners who emphasized naturalness were accepting of the possible loss of their home, the above landowner diverged from the group in describing the risk to her home as unacceptable tied to her sense of loss and a desire not to see her home burned by wildland fire.

When evoking the natural landscape narrative, some landowners described some aesthetic perspectives that placed nature at a distance from humanity. One landowner described herself as “living in a postcard” when she talked about Cabinets landscape.

I: How would you describe [the Cabinet Mountains landscape] to someone who'd never seen it before?

L10: I would have to say that it's probably one of the most stunning views you're going to see. I just feel lucky. I feel like I'm looking at a postcard. It's so pretty. In fact, when we were first looking at property out there, we pulled off the road, and I said to [my husband], "If I had something like that to look at every morning while drinking my cup of coffee, I would think I had died and gone to heaven here on earth." And I didn't even know that it would end up being a place where we live, so I do feel really incredibly lucky.

One gets a feeling that this landowner holds the landscape and nature at arm's length. She herself added that she does not feel the need to actively engage the forest by backpacking with her children but would rather stay at home. Looking at her perfect "postcard" view from the breakfast table is her preferred mode of appreciating the Cabinets landscape. Additionally, the belief that living in the Cabinets landscape is like being in "heaven" was invoked by many landowners in connection to the scenic beauty of the region. The concept of heaven implies an existence of detached enjoyment removed from daily worries and trouble. These aesthetic perspectives about the landscape as a postcard or heaven imply a sense of separateness between humans and the environment, and they were more common in the natural landscape narrative. Contrast this perspective with earlier statements by working landscape landowners who talked about how "humans and nature" are one, and that signs of human activity in the forest are acceptable since humans belong to the ecosystem as well. The landowner quoted above later linked these ideas about her aesthetic appreciation directly to her management preferences, as described in a later section. However, an emphasis on personal aesthetic appreciation as top priority was not typically linked to management preferences by natural landscape landowners.

Fire is Natural

A key component of the natural landscape narrative was a belief that wildland fire is a natural phenomenon, not some extraordinary or tragic event. Some landowners actually described wildland fire as generically “good” in all settings. These landowners also argued that fire, good or bad, is an inevitable and intrinsic part of the Cabinets landscape. They articulated a willingness to accept the risk of living in a fire-prone environment and recognized that personal property might be lost. According to this landowner:

Of course, you can't prevent the fire. Lightning's going to strike. But can you help save some of these homes in the interface area? Maybe. Do we have the right to go in and stop a fire or change the ecosystem so that a fire won't spread when it's a natural fire and fires have been happening all around? Also I feel like it's not just a Kootenai forest problem. It's a worldwide problem that is a result of global warming and ecological problems that most people really don't care about. They really just don't want their house to burn down. That's really all they care, they don't want to take the next step and say what about our whole environment? What is happening here, and what can we do to change this whole thing? But that would require a complete thought process change on their part.
(L29)

Some proponents of the natural landscape connected wildfire to broader ecological changes. A few landowners mentioned climate change and regional drought. Additionally, some landowners, such as the woman above, discussed whether or not humans have the “right to go in and stop a fire.” Accordingly, interfering with fire violates a natural process. In the natural forest narrative good stewardship mandates, that fire should be allowed to “run its course.”

The next landowner, a newcomer to Libby, draws a line from her choice to live in a natural landscape to beliefs about the intrinsic nature of wildland fire to her management preferences.

I: And do you feel like there's a connection there between things that are important to [you] about the forest and what that you think about fire and fuel issues?

L26: I think for me they're connected. You know, my thoughts on the fire and fuel issues tend to be naturally driven, just like my reasons for being here. So I think they're connected. For me they're connected, you know. I think fires are natural. I'm not really for starting them unnaturally. I do think if they can be controlled it's not a bad idea. I do think there are times where they can't be controlled, and that's a natural way of regeneration. And since nature is the reason I moved here, then I'd say they're connected.

She is unequivocal in her statement that she sees fire as an ecological, or “natural”, phenomenon. She moved to the Cabinets because it too is “natural,” therefore fires should remain a part of the natural landscape. Decisions about active fire management get a little murky for this landowner because human ignition of fire is “unnatural.” Yet she does not see controlling fires “if they can be controlled” as unnatural. In this section we have seen that even within the natural landscape narrative there is some variation amongst views. Both groups of landowners who subscribe to the natural landscape narrative see fire as natural. However, one group described natural fire as something that they should accept, and the other segment described it as something that should be controlled at times. Look for echoes of this ambivalence and variety of perspectives about the various methods of fuel reduction among natural landscape landowners throughout the following section.

Fuel Management in the Natural Landscape

Privileging the natural aspects of the landscape and seeing wildland fire as essentially “good” or “natural” led to varied preferences for fuel management actions among this group of landowners.

Thinning

Although the natural landscape narrative was generally antithetical to the logging, there was widespread acceptance of mechanical thinning in the WUI where necessary among these landowners. Advocates of the natural landscape generally opposed thinning anywhere that it is not necessary to directly protect private property. This landowner explicitly contrasted her views with those who saw the forest as a working landscape, saying:

And I do agree that we could reduce the fuels. [Some people say], “they’re going to go to waste.” I don’t agree with that. It’s not wasted just because nobody used it. Nature doesn’t think it’s wasted. The birds don’t think it’s wasted. However, it is dead, and it is a fire hazard. (L9)

She mapped thinning as acceptable in most of the Cabinet landscape, but very unacceptable in the Cabinet Mountains Wilderness and somewhat unacceptable in the roadless area. She disputed the notion that fire wastes fuel because dead trees are useful to wildlife. She does concede that forest fuels do pose a fire hazard and need to be reduced if the community is at risk.

Other landowners marked thinning as unacceptable in the National Forest anywhere beyond the WUI boundary because of the damage they believed such thinning would cause to the ecosystem. This landowner expressed concern that thinning would displace wildlife and negatively impact the land.

I have a really hard time with thinning by machine in that I have little faith in the system. And so I wonder what that really means to the animals and to the rest of the terrain when they go in and thin. The idea of it is probably nice. But I wonder what the reality of it is. I’d say it’s unacceptable. Just as a general thing. I don’t have specific places. I’m not necessarily against the thinning if I feel like it’s done right. But I’m not saying that I know how to do it right. I just see that a lot of situations where especially when a lot of machinery is brought in the land is

destroyed, the animals are destroyed in the process and I just don't have the confidence that it's going to be done right. (L29)

This landowner seems to distrust land managers, in this case the Forest Service. Accordingly, the welfare of animals and the land cannot be trusted to humans, so thinning is unacceptable. It is also important to note the lack of spatiality of this management preference. This landowner admits that her preference is a “general thing” and not a specifically place-based decision.

This next landowner expressed her opposition to thinning outside the WUI based on the roads that must be created for a thinning operation to remove fuels. General opposition to more roads, or “scars on the land,” was often cited by natural landscape advocates.

Basically anywhere near a lake I don't want any thinning because it screws up the waterways. No thinning. Any of the main peaks, no thinning. No thinning around here. Bastards. Stop! Stop, bastards! I don't want a gazillion roads up there so that they can thin it. Thinning brings roads. (L12)

According to this landowner, thinning equaled new forest roads in an already heavily roaded area. The impact of those roads on the watershed, due to soil erosion, meant that thinning was not an acceptable tool to reduce fuels.

Landowners simultaneously drew on and created the natural landscape narrative as they delineated their overall opposition to mechanical thinning. They spoke of the destruction of wildlife habitat, damage to waterways and soils, and the negative presence of roads. However, it is important to recall that despite strong opposition to thinning in and adjacent to the designated wilderness, nearly all these landowners accepted limited thinning in the WUI and around their own homes to ensure fire protection. Their view of the forest a natural landscape was balanced

by practical considerations of fire protection and a widespread belief that a stand-replacing fire (the Big One) loomed in the near future.

Prescribed Burning

As described above, landowners who saw the forest as a working landscape saw fire as “bad” and “wasteful.” This was linked to blanket opposition to both prescribed burning and wildland fire use among nearly all of those landowners. In contrast, while natural landscape adherents generally agreed that fire was “good” and “natural,” they had divergent and varied opinions on prescribed burning and wildland fire use. On fire and fuels management, the working landscape group was homogeneous while the natural landscape group was less so.

Some landowners found prescribed burning to be acceptable because it “mimics nature” (L22). They supported the use of prescribed burning everywhere on the Cabinets landscape. These landowners described their support for prescribed fire, saying:

I think fire is a natural part of the ecological cycle and should be allowed to go its course. So I have no problem with controlled burning or letting fires go their own way. (L18)
Yeah, to me that's just simple common sense, because we're going to the opposite extreme. We're putting the fires out. So we got to replace it with something. And prescribed burning or controlled burning is the way to replace it, and it works. You're not going to get into the situations where you have these massive, huge, hot fires. (L11)

The second landowner believed that, as a part of a functional system, fire has its rightful place. It has been suppressed for almost a century and, according to this landowner, it must be restored to the forest. He concluded that prescribed burning may reduce the risk of high intensity fires in the future. These landowner's preferences are seemingly based solely on the belief that fire is a

natural ecosystem component. Others, such as this long-time local below, drew on several ideas to explain his preference for the use of burning.

There again, [the Forest Service] ought to take their thinking from the Indians way back when. The Indians set stuff afire every spring, and they had a good, healthy forest and grasslands for the animals. Had lots of animals. Well now they're going to do [prescribed burning]. When I first started out here, a bird couldn't of flew across this goddamn mess up here. There was no animals here. We never seen animal one. Now, like I say, they're here all the time. So, yeah, I'm really an advocate of prescribed burning. You bet. (L17)

He was familiar with the historic fire regime of the area and how Native Americans used fire as a tool to shape the land. Furthermore, he had seen the positive effects of a habitat improvement prescribed burn near his own property and noticed the return of wildlife to the area. And while the landowner above supported burning to improve wildlife habitat, the following landowner wanted to see the forest itself and trees restored by fire.

I think it's acceptable, but not a great deal. But I think it should be done because it's replenishing the forest, you know. It's putting new growth in, getting new stuff in, you know. (L1)

This landowner saw the regenerative power of fire in the forest as reason enough to overcome his other reservations about prescribed fire as indicated by his addendum that burning is acceptable, “but not a great deal.” Because he believed that fire would restore wildlife habitat and was part of a balanced ecological cycle, he deemed prescribed burning acceptable everywhere.

However, some strong adherents to the natural landscape narrative found prescribed burning to be unacceptable everywhere in the Cabinets landscape. Although they believed that fire is and should be a part of the landscape, they disagreed with the idea that humans should set

the fire or are even capable of controlling such a powerful force. According to these landowners, that power should lie with nature alone. This couple said:

L28: Yeah, but whenever man starts doing stuff like [prescribed burning] to try to alter the [land], I just feel like nature should do it.

L29: It's the same thing with thinning. It's the same thing as thinning.

L28: But then the [bighorn] sheep, they're running out of space because we're encroaching on everything else, so.

L29: Well, that's the thing. I mean, I feel like we're just putting out fires for problems that we're causing, that humanity or mankind on earth is causing. And it's not going to, I don't think these little things are going to make a big difference.

This couple start off saying that prescribed burning is unacceptable because it is not “natural.”

From a common starting point they begin to diverge. The husband seemed to waver in his support of prescribed burning as he talks about how burning could be used to improve bighorn habitat and restore previously damaged areas. Meanwhile, the wife goes even further in her indictment of humanity's role as interloper in natural processes. According to her, humanity has caused massive environmental problems and cannot hope to fix these problems. She stated that prescribed burning will not restore damaged forest ecosystems. This next landowner echoes the sentiment that human attempts to mimic natural forces are not acceptable. She also argues that human action cannot be trusted.

And, well, I pretty much think [prescribed burning is] very unacceptable. . . And more so even near the homes. So let's just go with that, because, I'm not really a big fan of the prescribed burning. I mean given that a human element is the one doing the prescribing. They can't be trusted. (L12)

While this pervasive distrust for human management was extreme among landowners who saw the landscape as natural, such distrust was related to a common disbelief in the Forest Service's ability to control a fire, even one they prescribe and manage.

Wildland Fire Use

Management preferences regarding wildland fire use were much less divergent than those for prescribed burning among natural landscape landowners. All of these landowners supported wildland fire use in the Cabinet Mountains Wilderness. Several landowners discussed employing a "let it burn" or "let nature take its course" philosophy outside of the wilderness. They supported wildland fire use for reasons similar to those discussed regarding prescribed burning, namely that fire is a natural part of the ecosystem and the forest needs to burn sometimes. However, when discussing wildland fire use, many landowners delved into their deeper philosophies regarding WUI landowner responsibilities. These next two passages are examples of how landowners tapped into their fundamental ideas about the role of humans in non-human nature.

I have no problem with burning as a practice. That's necessary. It's natural, and it needs to be utilized in their time and places. I guess I get a little bit put off by people who go out into the forest and they want the forest managed like their township, you know. To me, if you are fortunate enough to go out and have a place in the forest, then recognize that you are in a forest. And you adapt to the forest, don't make the forest adapt to you. That's kind of been my philosophy. Yeah, and I think that's appropriate because fire is a natural part of the, you know, ecological cycle so I have no problem with it at all. (L18)

This landowner, referring back to his stewardship ethic, argued that part of the living in the forest meant adjusting your lifestyle to accommodate "natural" phenomena. He suggests that natural-ignition wildfires should be allowed to burn when feasible.

This next landowner mapped wildland fire use as acceptable everywhere, even the WUI, arguing that:

I still can't get out of my head and my heart that when you live in this area this is the chance you take. But I'm not suggesting that if there were a lightning strike fire right there that I would be happy about that. But when you think of it as the total picture, lightning strike fires are lightning strike fires. And here we live right in the middle of it. And that's our responsibility. Well, I think we could protect our own home to whatever degree or get the heck out then. And say, "Well, we lived in the fire zone, and it burned." (L29)

She explicitly connected this ethic to what she herself would do in this scenario, and at least in theory she is willing to accept the destruction of her home as part of letting fire reclaim its “natural” role in the Kootenai forest ecosystem. Additionally, this landowner demonstrated an underlying deference to nature. She believed that forest landowners should adapt to natural processes, such as fire, even if they could damage property. This also means that landowners must make acknowledge their responsibility to prepare for a fire as much as possible without expecting total fire protection or guarantees of safety. Overall, most landowners who privileged the natural landscape described a stewardship ethic in which human needs are subordinate to the needs of the non-human, natural world.

Other landowners connected their perspective on wildland fire use to a belief in past mismanagement of fires and the forest. The following landowner affirmed that perspective.

I think the general population needs to get through their head that this is a natural thing. I mean, when lightning strikes in the forest, it's going to burn. And the only reason why it's not going to burn is either the natural things are going to happen, you know, whether it rains or whether it blows the wrong way or whatever. Or we're going to try to manage it. And frankly, in my opinion, in the past, we've been very poor at managing it. We've, we haven't figured it out and really managed it very well. So to me, I think that they can let them burn

wherever. . . And, again, to me those are always monetary things, because it's the people that are, whether they are the loudest or whoever is that they're looking at it going, "You just let 50,000 acres burn of trees that we could be selling and makes so many million dollars worth of board feet of lumber that we could have just logged out of there, and it would have never ever burned. You know, if we would have logged it, it would have never had a chance to burn." But to me that's not right. It's a natural thing that happens. (L37)

After describing his belief that fire will restore a poorly managed forest, this landowner counters the oft-repeated argument that fire is wasteful of resources. Rather than a waste of timber, this landowner views a burned forest as a "natural thing." Therefore, wildland fire use is an acceptable fuel management tool.

In contrast, one landowner, who invoked the natural landscape throughout her interview, ultimately described prescribed burning and wildland fire use as unacceptable anywhere because those actions could ruin her scenery.

***L10:** I can't say yes to anything around here, because it's all home. It would make me cry to see anything burn. Sorry.*

I: And that includes the wilderness?

***L10:** That includes the wilderness. I don't know how looking up and seeing that all denuded is going to make me feel. I can't say yes to that. I'd like to be able to be really ecologically-minded and say, "Hey, that's natural." I don't want to see it burn. I don't want to see it change, I guess. Change is hard. But if God is going to do it, He's going to do it. So it'll happen if it's going to happen. But I'm not going to put my stamp of endorsement on it.*

This landowner is clearly torn between allowing fire use because would be the "ecologically-minded" thing to do and protecting the forest that she considered "home." She was very emotional during this portion of the interview and the thought of the forest burning down definitely upset her. Her attachment to the forest in its present state drove her to not only go against what she saw as the right choice for ecosystem, but also to contradict what she sees as

God's plan for the forest. Although she admitted that fire is going to happen on the Cabinet landscape anyway, she does not accept land managers intentionally using wildland fire to reduce fuel loading on the forest. Several natural landscape landowners, but certainly not a majority, opposed thinning, prescribed burning, or wildland fire use because of potential impacts on aesthetic values. But even among these landowners, preferences were never based on the protection of aesthetics alone. As landowner L10 above illustrated, there was a constant interplay with other factors such as the role of fire on the landscape, personal beliefs, and ecological processes.

Management Preferences Linked to the Natural Landscape Narrative

In the Natural Landscape section we learned that some landowners envisioned the Cabinet's landscape as a natural or ecological place. They emphasized the undeveloped character of the landscape, while also recognizing its history of use and resource extraction. They focused on the ecological values and perceived naturalness of the area. For these landowners, maintaining that naturalness was an important aspect of stewardship, and human intervention in ecosystem processes was not always compatible with the naturalness they valued. Most landowners (except L10) described wildland fire in general as "good" or "natural" because they believed it was a natural ecological process. In particular, the belief in the restorative or regenerative power of fire was associated with support for prescribed burning and wildland fire use. However, several landowners did not support prescribed burning because they did not feel that humans should be setting fires or attempting to control them. Similar to the working landscape narrative, stewardship was invoked as the guiding principle behind the management preferences of most landowners. According to these landowners, managers must make choices

about fire and fuels that will benefit the animals, plants, and waterways of the landscape. Human concerns for property protection were a necessary element of the management equation but not always the highest priority. See Figures 5.5 and 5.6 (below) for a tabular summarization of fundamental ideas and management views connected to the natural landscape narrative.



Figure 5.5 Fundamental ideas associated with the working landscape narrative.

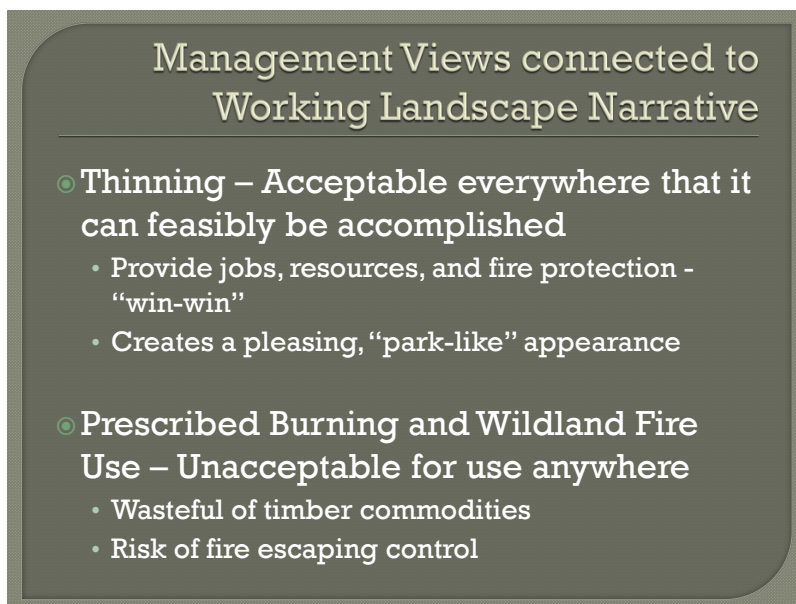


Figure 5.6 Management views connected to the working landscape narrative.

Revisiting the Role of Aesthetics

Because aesthetics have been the focus of many fire social science studies, it is important to revisit the role that aesthetic values played for landowners in this study. Throughout the above discussion of both landscape narratives, landowners often referred to their aesthetic values and drew on their appreciation of scenic beauty when describing their relationship to the land. Sometimes these aesthetic views and interests played a role in landowner management preferences. However, aesthetic values were rarely cited by landowners as the sole force behind most management preferences. Instead, aesthetics were part of a complex set of competing values that landowners negotiated when making decisions about potential management actions. Previous studies have found similar behavior among residents of fire-prone landscapes. Daniel et. al. (2003) found that “support for fuel reduction strategies hinges on public perception and evaluation of a complex set of tradeoffs among uncertain and potentially conflicting values” (36), including “fire safety and aesthetic/amenity values” (42).

It is important to note that most landowners described markedly different perspectives regarding public forest management versus their decisions for management of fuels on their own private property. For example, one landowner described above very specifically stated that she did not want thinning to disturb her view of a beloved stand of blue spruce adjacent to her property. In every other case she supported mechanical thinning across the forest landscape to achieve fire protection. Previous literature has established that WUI landowners often preference their landscape aesthetics over fire hazard reduction on their own property (Daniel et al. 2003; G. F. Winter et al. 2000). Nelson et. al. 2005 found that homeowners in Minnesota and Florida

managed trade-offs between a wide array of values including “naturalness, aesthetics, wildlife considerations, recreation and privacy” (178) when making decisions about managing their own property for fire safety. In my study, several landowners who were well-educated on fire issues and defensible space requirements discussed choosing not to fireproof their homes for aesthetic reasons. This landowner related a story to explain this phenomenon:

Well, I have a friend who has heavily wooded area right up on the crown [of a hill] where the fire came [in 2001]. It didn't quite get to his place. He has trees right up against his house. That's why he bought there. He loves it there. So what did he do? He kept a chainsaw on the porch. In case the fire got too close, he was going to go out and log as the fire was approaching. That's the way we are. We love our trees and it's very difficult to get people to build defensible space. (L5)

Several landowners invoked their aesthetic values when talking about the decision to not cut down potentially hazardous trees on their property until fire actually looms. The doctoral dissertation of Tam Wall at the University of Montana asserts similar findings on homeowner views regarding defensible space in the Seeley Lake region of western Montana. In short, many landowners who favored thinning on public lands did not favor thinning on their own property because of an aesthetic preference. This seeming contradiction is well documented in the literature (Beebe & Omi 1993; Daniel et al. 2003; Vogt 2003; G. Winter & Fried 2000). Thus, this research supports the conclusion that we cannot assume actions on private property are indicative of which public fuel management actions a landowner might support. Aesthetic values among forest landowner play an important, but not fully understood, role in decision-making about public and private vegetation management that warrants further investigation. [Note to LY – I took out discussion of “change” as related to aesthetics.]

Conclusion

All landowners in this study had complex relationships with the Cabinet Mountains landscape. Landowners often framed their management preferences using narratives about the forest landscape and what it meant to them. However, landowners discussed two very different narratives for the same landscape. Many landowners created a “working” narrative about the landscape as a place meant to provide a living for human beings. Other landowners created a “natural” narrative that depicted the landscape as a place meant to provide benefits for all organisms, not just humans. In some ways these two landscape narratives compete with one another because they cannot both be fully implemented on the land without one excluding elements of the other. Because these narratives about the landscape were closely linked to landscape-scale management preference, knowledge of these competing narratives can aid us in understanding differing views on fuel treatments among forest landowners.

Landscape narratives were tied to a number of related factors. These factors, which aid us in seeing the differences between the two landscape narratives, included aesthetics, views on the nature of fire, and ideas about proper stewardship/management. Aesthetics played a minor role in management preferences, worthy of mention but not in-depth examination. However, aesthetic appreciation among landowners played a major role in landscape meanings overall. Another factor was perspectives on the nature of wildland fire, which included a pervasive belief in an impending, catastrophic fire. These views on fire were found throughout the landscape narratives and were often connected to management preferences by landowners. Finally, stewardship ethics and ideas about “proper stewardship” were tightly woven into the landscape narratives and, therefore, closely tied to landowners’ management views. Despite superficially

similar language, landowners described very different definitions of stewardship. Overall, landowners' fundamental ideas about stewardship and proper management associated with their preferred landscape narrative, working or natural, were the most significant factors linked to management preferences.

Landowners who evoked the working landscape narrative described a forest in which commercial logging and other extractive uses of the land were privileged. These landowners tended to describe wildland fire as either “unnatural” or “bad” and sometime both. They prevalently described fire as wasteful of timber resources. Aesthetically, they preferred a “managed” appearance to the forest with wide spacing between trees; they are accepting of the visual cues of human use of the landscape, such as clearcuts and old tree-stumps. Stewardship as linked to proper management is described by working forest landowners as an active management approach in which humans are depicted as having the right and responsibility to exert their control over nature. Based on these fundamental ideas about humans and nature, working landscape landowners made similar choices when it came to potential fuels management actions. They universally approved of mechanical thinning almost anywhere on the National Forest to achieve fuel reductions. With little variation, these same landowners found prescribed burning and wildland fire use to be unacceptable as means of treating fuels build-up (except, for some, within the designated wilderness area).

Landowners who evoked the natural landscape described a forest valued for “naturalness” and where intrinsic values for all living organisms were privileged. This landscape was tied to a preference for non-productive use of the forest, such as recreation. These

landowners described fire as “natural” or “good” and sometimes both. They prevalently described fire as a source of regeneration for the forest and a necessary component of the ecosystem. Aesthetically, they preferred a “natural” appearance to the forest which meant that signs of human management were seen as “out of place” and undesirable. Stewardship for natural landscape landowners was seen as encompassing a concern for all components of the forest ecosystem, biotic and abiotic, including wildlife, humans, water, soil, and air. Management was described as necessary only when “restoring” an “exploited landscape” harmed by resource extraction and mismanagement or when directly protecting residential areas from fire. Landowners who subscribed to the natural landscape narrative also approved of mechanical thinning of hazardous fuels. However, unlike the working narrative which accepts thinning almost everywhere in the forest, the natural landscape narrative casts thinning projects as acceptable only when proximate to human structures in the wildland-urban interface. Natural landscape landowners frequently described thinning as unacceptable in the wider forest. Nearly all natural landscape advocates accepted wildland fire use in the wilderness area; however, views on prescribed burning were split. Some landowners felt that prescribed burning was acceptable because it was restoring fire to its “rightful place” in the ecosystem. Other saw it as unnecessary and potentially dangerous human meddling in natural processes, which led them to disapprove of its use as a management tool.

Throughout the interviews with landowners, fundamental ideas about humans and nature were connected to a relationship to place that emphasized the whole landscape rather than individual, special places. These fundamental ideas were also related to the landscape-scale preferences for fuel treatments described by forest landowners. When taken together, these

different paradigms about humans and nature and how humans interact with nature when “managing fire” formed two cohesive and distinct narratives about the Cabinet Mountains landscape. Ultimately, these competing landscape narratives, which evoked the natural and working landscapes, are not just how landowners described a place, the Cabinet Mountains on the Kootenai National Forest. These landscape narratives are both embedded in and contain ideas about what is proper use and management of the forest and its resources, and what should happen in the community and on the land.

Chapter 6 - Conclusion

Summary of Findings

Two distinct, place-based narratives about the Cabinet Mountains landscape emerged from interviews with forest landowners. The first and most prevalent narrative is that of the working landscape. The working landscape narrative has deep roots in the old mining and logging town of Libby, and many landowners themselves have at one time or another “worked in the woods.” The narrative depicts the forest landscape as a place of managed nature; manipulated for its own good and the continued benefit of humanity. The forest and its components are viewed primarily as commodities. People are at home in this landscape as they wrest a living from nature. Fire is an intruder that wastes precious commodities. Mechanical thinning is widely embraced as a solution to the build-up of hazardous fuels, while controlled burning is viewed with suspicion and distrust.

The second narrative described by many landowners was that of the natural (or ecological) landscape. This narrative depicts the landscape as a place of naturalness, low development, and primitive character. Fire is at home in the landscape, but people are sometimes seen as intruders. The forest landscape is primarily valued for its existence as home to wildlife, a provider of ecosystem services, and a place of aesthetic beauty. Commercial logging and mining are rejected as components of this landscape. Active fuel management via thinning is recognized as a necessity to protect most homes in the WUI, but extensive interference in natural fire cycles is viewed as an intrusive action. Wildland fire use is almost totally accepted, while views on prescribed burning are split.

Overall, these narratives were framed by an ethic of stewardship. Among the landowners studied, the ethic of stewardship, which they used to explain the relationship between people and the landscape they inhabit, was related to fundamental ideas about humans and nature. The ideas, some touched on in the preceding paragraphs, include notions about the essential nature of fire, the threat of a catastrophic fire, appropriate use of the forest and its resources, and humanity's role in forest landscape. All of these ideas coalesce into a broad view of fire management. Nearly all landowners described preferences for fuel reductions that are tied to the whole landscape of the Cabinet Mountains rather than specific, small-scale locations on the ground.

Nearly all landowners discussed and mapped their special places on the landscape. Additionally, most landowners mapped broad place meanings attached to the whole landscape. When questioned about potential management actions used to reduce hazardous fuel loads and manage wildland fire, landowners mapped preferences that pertained to broad swaths of the landscape or the whole landscape itself. However, they did not map or discuss management preferences that pertained to particular locations, including their special places. Landowners clearly linked their reasons for management preferences to their landscape-scale place meanings.

Implications

The findings of this study have implications in four realms: theoretical, methodological, managerial, and for community collaboration. I begin with a discussion of how my findings are situated in the body of place literature. I then move to an examination of methodological implications, including an assessment of the mapping exercise employed in my data collection.

Then in the management implications sections, I will highlight what this work can teach land and fire management officers. Finally, I will discuss some practical applications for the town of Libby as they work towards successful community-based natural resource management. The chapter concludes with a brief discussion of directions for future research as suggested by some ancillary factors linked to management preferences that were uncovered by this research.

Lessons for Place Theory – Rethinking Special Places and the Role of Scale

This study sought to directly investigate the spatiality of “place.” Among this sample of forest landowners, place meanings were situated at multiple, nested scales from particular geographical locations expanding out to a much larger socio-cultural, landscape context. These scales sometimes overlapped as landowners frequently characterized both particular locations and the whole Cabinets landscape as a “special place.” Following the standard conception of special places as specific sites (Schroeder 1996), particular special places were important to landowners, and they could readily describe them as well as mark them on a map when asked to do so. However, for nearly all landowners, preferences for fuel management were not related to the presence of special places in potential management areas. Instead, most landowners linked their views on management to landscape-scale narratives. The stories that landowners told about the Cabinets landscape, about themselves, and about their roles in the landscape overshadowed any relationship between management preferences and special places. As researchers of place, we must be attentive to place meanings that operate at different scales, and choose the appropriate scalar level to lend insight into the management issue of interest.

Place researchers also need to reconsider the topic of “special places” and the inherent limitations of the term itself. In this study, the focus on links between special places and management preferences initially limited my understanding of what landowners really thought about fire and fuels. Special places were important to landowners as previous literature has demonstrated. Schroeder stated:

When a person’s “special place” is lost or altered by a human action such as a timber harvest... or by a sudden natural change such as a fire... the person may experience intense emotions such as grief and anger. (Schroeder 2002: 12)

A few landowners felt as strongly about the alteration of their special places as Schroeder suggests. However, more landowners were willing to accept change to their special places, acknowledging with equanimity that change is inevitable and necessary in the forest landscape. Several landowners maintained that their places will remain special even in the face of dramatic ecological and aesthetic change (fire) or significant management intervention (fuel reduction). Others said that the care for their special places, but that they can find new ones if fire destroys the old.

Therefore, special places may sometimes be substitutable to users depending on the management context. Or, if not substitutable, then not necessarily irreplaceable or even a primary influence on their management views. Rarely did a forest landowner in this study conclude that their special places should be accommodated by a fire management decision. This finding is in contradiction with previous literature on place (Williams and Stewart 1998, Schroeder 1996) that

states that special places are not fungible and should be a factor in land management. Schroder suggested that:

Input [on special place] can help identify specific locations within a region that are special to people, environmental features that contribute to a place's character, and issues and concerns that are important in managing and planning for these places. (2002: 13)

Despite suggesting implications for broader natural resource management, Schroeder's study and most special places literature focused on use of recreational areas by nonresidents. Most visitors to recreational areas initially chose to use such places based on the setting it offered to accommodate their preferred form of recreation. Therefore, is not surprising that a non-resident population of users would have very different relationships with their special places than the resident landowners in this study. My sample has a connection to a larger landscape scale and corresponding narrative which may have an inherent acceptance of change. The visitor-special places relationship is markedly different from that of the landowner who resides in the wildland-urban interface and is directly affected by management on the public lands proximate to their own property. When the study of special places is carried into research settings outside of recreation management, such as watershed studies or fire management, such research must be done with caution and an understanding of context. Due to the nature of this research, I cannot generalize these results to all populations of forest landowners. But the lessons learned about the influence of special places versus landscape-scale narratives on management preferences is a potent reminder to any place researcher to remain open to the unexpected.

Lessons for Methodology

An Assessment of the Mapping Exercise

The mapping exercise in this study was useful for understanding some of the biophysical and geographical components that form the spatial foundation of landowner relationship to place. Some preliminary research design choices were based on the theoretical assumption that specific locations on the landscape, such as scenic views or special places, would have direct bearing on what participants mapped regarding fuels management. However, when it came to management preferences, landowners primarily used the mapping exercise to echo broad, landscape-scale preferences discussed earlier as part of the more typical qualitative interview. In most cases, the mapping did not yield specific spatial preferences for fire and fuel management (i.e. “thin here in this valley but not here in my area”) that could be easily presented to a decision-maker in map format, as was initially hoped. While it was anticipated that the people sampled would feel that their place values were threatened by management actions and reflect that by marking specific locales on their maps, with very few exceptions, this was not the case. It may be that in some instances mapping is simply the wrong tool for the job. Although it is impossible to know for certain, I may have been able to reach the same conclusions about the relationship between place meanings and management preferences with only the interview data. The landscape-scale factors that turned out to be most important in this study would have most likely emerged from the qualitative data even without the maps that landowners created showing landscape-level attachment and landscape-scale preferences for fuels treatments. However, the snag in deciding whether or not to incorporate a mapping component into any given research project is that one cannot anticipate the scalar effects on the data and decide if mapping will be useful until after

completion of data analysis. For these reasons, along with the fact that developing, implementing, and analyzing the mapping exercise and its outputs was costly and time-consuming, future researchers of place meanings and management should give serious thought to the pros and cons of including a GIS mapping element in the research design before making a decision if dealing with a population with a landscape-scale attachment.

Practical Considerations

My experience using this mapping software did yield some practical advice for improving the mapping program for future researchers. 1) By guiding participants through the process in person, even those landowners who were not computer savvy could participate. Some landowners did not feel comfortable using the laptop's mouse for mapping so they were given a pointer to indicate their spray patterns on the computer screen as I used the mouse to direct the actual spray tool following their direction. This tactic seemed to work well, and I always double-checked with participants to ascertain if the maps we created were an accurate representation of their ideas. 2) I used aerial photos of the study site to create the map used in the mapping exercise. Some landowners found it difficult to orient themselves to this image because of its unfamiliarity. It would be useful to be able to toggle to a topographic map for those more comfortable with that format. 3) I included a small inset of the entire Cabinets landscape map so that landowners could mark the entire area easily. Without this addition, I may have missed the landscape-scale attachments so important to these landowners' relationship to place. To even better capture scalar effects, future versions of this program should enable zooming in and out easily so that landowners could choose the spatial scale at which they map.

Lastly, one of the initial aims of this project was to attempt to map both place meanings and the intensity of these meanings or attachments. To capture the intensity of landowners' feelings, I used three-coded spray patterns for increasing levels of intensity (e.g. blue=somewhat important, pink=very important). However, I found that landowners did not fully use this feature of the mapping tool despite careful instructions, practice exercises, and reminders by the researcher about the intensity measure throughout the process. In the special places mapping portion, 73% of maps created were at the highest intensity. Intensities were more evenly spread in the management mapping portion, but the highest intensity was still used most frequently. However, for those people who chose the low or middle intensities it seemed that they would just select one intensity level and stick with it for all maps. When asked why they did not differentiate between the three levels of intensity, several landowners stated that one place cannot be any more or less important than another. Others felt that a management action, such as mechanical thinning, cannot be more or less unacceptable. According to most landowners, something is either important or not important, acceptable or unacceptable. These landowners felt that it was counterintuitive to rate importance or unacceptability in this manner. Practically speaking, it may be that landowners had too many tasks to juggle in the mapping process. Intensity might be better gauged if mapping participants were first asked to map, then instructed to rate the importance of those places afterward so that they could focus on one task at time. Intensity may be important or it may not be. I simply offer two possible explanations. The four suggestions above could help to improve the mapping exercise if the same software is used for future studies.

Lessons from a mixed-method approach

If work on the spatial representation of place meanings is to go forward, it must remain attentive to emergent meanings. The main strength of the mapping approach used in this study was its ability to capture unanticipated themes because the mapping exercise was part of an in-depth, semi-structured, qualitative interview. By collecting the mapping data within the context of a qualitative interview, unexpected themes and deeper details emerged, results that might have been missed by mapping alone. If I had simply gathered a collection of special places maps or forest use maps, I would have missed the importance that landowners attached to the whole landscape, which turned out to be more directly linked to fire and fuel management preferences. The mapping exercise, which otherwise served as an insightful tool for elicitation of these narratives, failed to produce maps of spatially-specific preferences that could be readily delivered to an agency for integration with typical GIS data. However, it did successfully show that preferences for management were at the landscape level despite the existence of site specific special places for some landowners. Additionally, a few landowners actually suggested that the mapping exercise did not adequately capture their feelings or relationships with the forest landscape. If this study had employed mapping alone or without an in-person researcher, those perspectives would have been lost.

Participatory mapping has been introduced as an avenue for making complex place data available to managers accustomed to GIS data. The holistic nature of sense of place made it an attractive tool for integration with adaptive, ecosystem management. However, researchers must strive to retain the richness of place meanings as they convey findings to managers via mapping.

Attention to the complexity of place meanings is essential if we are to truly fit place to decision-making.

Lessons for Management – Accounting for place across scales and the challenge of mapping meanings

This research has lessons for the land or fire manager seeking to integrate local values and social science into planning and management. Managers, like place researchers, must be aware that sense of place can be situated at multiple, overlapping scales. The following excerpt reveals much about one fire management officer's assumptions about scale and decision-making. She concluded,

I think as far as management on the national forest, when you look at the intensity that the Scenery Mountain Fire came out or certainly the 1910 [Fires], we could probably defend our communities better if we did a more holistic approach. The likelihood of that ever happening is pretty low because you're getting into that very special area that people are pretty passionate about. So Libby, the community, we've done about all the work we can do adjacent to the communities. (L23)

This fire manager wanted to try a more holistic management approach, using all types of fuel reduction treatments to better protect Libby and its exurbs. However, she seems to believe that these management goals would be stymied by the intense attachment of local residents to particular locations within the Cabinet Mountains landscape (the “very special area”). She assumes that the “passionate” place attachment of the public may drive conflict over managing hazardous fuels in the area.

In order to understand stakeholders, their perspectives, and the roots of conflict over resource management issues, managers must obtain social data at all the scalar levels of a

management issue as it affects a community. Maps of special places and spatially-specific place meanings, while appealing for inclusion in land management planning, are not a panacea for integrating place research (which has largely been focused on theory) into applied decision-making. Maps of special places may only capture certain components of individuals' and communities' complex relationships with places. By attempting to get place research into planning via mapping, decision-makers may paradoxically run the risk of reducing the complexity of local relationships, the complexity that makes these relationships so important in the first place. It may be tempting for a land planner to look at a participatory map and conclude that

Decision-makers must find ways to account for place meanings that occur at multiple scales. Issues of scale will continue to emerge as place is increasingly linked to decision-making in new contexts. For example, place research could be applied to other landscape-scale issues, such as watershed management, in which narratives and broad place meanings about the whole watershed could be more influential than the existence of special places within that watershed. Decisions that are generically based on "sense of place" research or special places might draw on data that are situated at a difference spatial scale than the stakeholder views on management actions themselves. Managers might choose to use place research because of claims that place will enable them to avoid conflict or incorporate local values. However, if there is a mismatch in scale between people's special places and management preferences, as in this study, then conflict will not be avoided or even anticipated. In my case study, a hazardous fuels management decision based on accommodating special places would have missed what was actually linked to landowner preferences for fuel treatments. This scalar mismatch between site specific special

places and the “location” of management preferences could easily be overlooked, particularly in a mapping process that preferences site-specific phenomena such as special places.

Despite the promise of mapping special places for decision-making, it is important to remember that not all management preferences will be tied to specific locations on the forest; some management preferences are instead tied to broad values and interests regarding a whole area, as we saw in this study. Although managers cannot know this ahead of time, attention to scale should guide their inquiries into local views and interests. As federal, state, and local agencies work towards greater civic participation and democratization, tools such as participatory mapping and interviews can be legitimated as part of a planning toolbox. Mapping may not be appropriate to every management challenge, but it is available when needed.

Some researchers of psychosocial phenomenon contend that the mapping of values or meanings is entirely too reductionist to be worthy of investigation. I will not go so far in drawing my own conclusions. Although the mapping exercise in my study did not capture precisely the data I anticipated, it was useful in that it verified the existence of landscape-scale place meanings as attached to the entire Cabinet Mountains landscape. A static, two-dimensional map will never fully convey the dynamic, multi-dimensional nature of place relationships or perhaps any psycho-social construct. Despite creative and synergistic pairings of maps with qualitative data, mapping meanings might never be as nuanced or informative as place researchers would hope. However, it is imperative that we continue to investigate the possibilities as we can only learn from our failures and improve both social science and GIS mapping as result. In the meantime, as the field of participatory mapping grows and vies for attention, social scientists must constantly

remind managers and decision-makers of the real people and the stories, memories, beliefs, and lives that lie behind every point or polygon on the map.

Implications for Place-based Collaboration and Conflict Resolution

I hope that these results will become part of the dialogue on forest planning on the Kootenai National Forest. This study of landowners' relationships to the Cabinets landscape furthers our understanding of a segment of the Libby community that is underrepresented in ongoing collaborative planning efforts in the region. This project provides insight into why forest landowners support or oppose a range of fuel treatments. The results also revealed landowner views on the nature of fire, forest aesthetics, human-environment relationships, and stewardship values, views that provide insight into a variety of management issues. Copies of this thesis will be shared with the Lincoln County Fire Plan Steering Committee, the Kootenai Forest Stakeholders Coalition, and landowners who expressed interest in this project. The future of fire and fuels management on the Cabinets landscape is in flux, and this report will help engaged parties better incorporate local landowners' views into decision-making.

Despite the weaknesses described above, the mapping exercise does have promise for use in other arenas, such as collaborative planning. Used in real-time at stakeholder or community meetings, the mapping tool could stimulate deeper dialogue and enable discussions of management actions to be grounded in space via illustrative maps. Sometimes large meetings of diverse groups veer towards discussion of abstract plans and timelines or get bogged down in the same, intractable arguments over irreconcilable values and interests. When input on real, on-the-ground management options is desired, a mapping exercise could be used to elicit specific

feedback on preferences from stakeholders. The mapping exercise may improve the planning process by giving communities a new tool for communicating their views to managers, especially where management actions are connected to specific locations on the map. For example, the mapping exercise could be used by the Forest Service in the scoping phase of a National Forest Plan revision. Or, focus groups of community members could identify areas on the National Forest that they are especially concerned about regarding seasonal wildlife closures. The resultant maps might alert planners to certain places they should consider more carefully before proposing management actions.

In the case of Libby specifically, the results of this research could contribute to the resolution of old conflicts. These findings indicate that a great deal of common ground exists among the two groups of landowners, those who subscribe to the working forest narrative and those who subscribe to the natural forest narrative. Many working forest landowners, as well as USFS managers, assume that all “environmentalists” oppose all fuel reductions that involve logging. My results show that, to the contrary, nearly everyone I interviewed understood the necessity for some thinning to enhance fire protection in the WUI. Additionally, these results showed that there is no clear ideological divide between long-time locals and newcomers on fire and fuel issues or general forest management. This finding flies in the face of common and oft-repeated wisdom in Libby that newcomers are a source of many problems. One frequently newcomers to the area blamed for everything from starting fires to the overall failure of the timber markets. In reality, some newcomers embraced the working landscape, and some old-timers see the forest as a natural landscape. Much common ground exists between these groups and my results illuminates where these groups converge in their thinking. It is my hope that this

study will help the collaborative groups in Libby understand themselves and the people and land they represent better. Conflict will never disappear entirely, nor should it. A diversity of view is to be expected in a democratic and pluralist society. But greater understanding of opposing perspectives and recognition of common ground is a must for collaboration to succeed.

Future Research and a Note for FireWise

As researchers working at the intersection of social science and natural resource management, we must continue to investigate the synergistic and complementary integration of qualitative and quantitative methods. In this study the mapping exercise functioned best as an elicitation tool that enabled participants to directly illustrate some of geophysical components of their place meanings. Just as photo elicitation has become an accepted interview tool, so too could participatory mapping. Perhaps the mapping will never stand alone, but when combined with an interview or survey it could be a very useful tool. Future research into participatory mapping must endeavor to overcome some of the flaws discussed above.

Previous fire social science literature regarding homeowners in the WUI (Daniel et al. 2003; G. Winter & Fried 2000; G. F. Winter et al. 2000) has tended to portray these home and landowners as primarily concerned with their private views and interests as they relate to fire protection and hazardous fuels management. This study has shown that landowners may also be motivated by concerns for the larger human and biological community. More research could be directed toward understanding why and when community concerns for fire protection supersede individual needs, such as aesthetic preferences.

One of the primary limitations of this study is the absence of absentee landowners initially targeted for inclusion in the sample. In the shifting economy and demographics of the New West, this portion of the population is becoming increasingly important. Previous fire social science research has found considerable differences between permanent and seasonal homeowners (Vogt 2003), which suggests that their perspectives might have diverged from the rest of my sample. Additionally, this study excluded residential renters. Libby has a few trailer park communities in which residents own their home but rent the land. By limiting my sample to *landowners*, I unintentionally excluded a whole socio-economic stratum from my sample. Because landowners must have enough capital to buy a home and land, very few young people were included in the sample. Future research on management preferences among residents of the wildland-urban interface should strive to incorporate broader demographics into their sample. Capturing a range of landowner perspectives is vital to a full understanding of landowners' sense of place and the changing dynamics in a community.

One final suggestion for future inquiry is drawn from my findings on the stewardship ethic among forest landowners. As mentioned throughout the landscape narratives, landowners frequently and explicitly drew on their ideas about "stewardship" as a principle guiding their views on forest management. Some of these people traced their stewardship ethic to forestry classes in college or "Forest Stewardship" classes offered by the state forestry extension. These classes teach forest landowners how to properly manage their own stands of trees for continued health and fire protection, among other things. Now recall the issue of "defensible space," which calls for WUI homeowners to voluntarily clear all flammable brush within 50 feet of their home and keep trees clear of their eaves in order to achieve greater protection from wildland fires. The

main proponent of this method, the county FireWise program, distributes literature to teach homeowners about defensible space and even offers matching funds for thinning projects. However, they have had little success with this program in Libby, according to one county extension officer with whom I spoke. As some of my findings on aesthetics support, many people do not want to clear the trees and vegetation around their homes because they like the feel of living in the woods. The direct call to cut those valued trees down falls on deaf ears. So my suggestion is this: perhaps FireWise would achieve greater results if they framed the issue of fire protection for WUI homes as one based on the stewardship ethic, rather than the mechanics of defensible space. My idea is pure supposition at this point and would require further testing to see if it has any merit. However, it is possible that if landowners were educated about forest health and proper spacing of trees using stewardship as a framing device, they may reach the conclusion on their own that the trees crowding their home need be cut. Regardless of the underlying motivations, defensible space and fire protection are the result.

Other Factors influencing Landowner Management Preferences

Among forest landowners living outside of Libby, Montana, landscape-scale narratives were most clearly linked to forest management preferences. However, some landowners discussed other factors that influenced their management preference. For example, a few landowners linked discussion of “managing ecosystems” and “biodiversity” to their decisions, which indicates a certain level of science-based, ecological education. Although I did not specifically question participants about their level of education, it became apparent in many interviews that higher levels of education or training were associated with a firmer grasp (or greater acceptance) of ecology and fire science. The more educated landowners often viewed

fire as part of the ecosystem and saw the national forest as a natural landscape. Another factor that emerged was that several landowners declined to map their management preferences out of deference to the authority of the Forest Service. Some of these landowners were former Forest Service employees and some were former loggers which may help to explain this deference on certain matters. When asked about his preferences for prescribed burning, one landowner said: “it’s [the Forest Service’s] responsibility to decide” (L24). Recently, there has been a growing interest in the democratization and decentralization of natural resource management. It would be interesting to study how landowners and various stakeholder groups feel about becoming more actively involved in management issues. In addition to deference to authority and education levels, local politics, professional experience, and identity politics were connected to views on fire and fuels management.

While outside the scope of my study, these other factors are not necessarily secondary to the landscape narratives in their influence on management views. Rather, as this study was framed by sense of place literature and theory, it is not surprising that connections to place were uncovered, as many of the interview questions were related to place concepts. The non-place factors described above exceeded the scope of this study and were not pursued in depth. However, it must be acknowledged that place meanings are not the only window into understanding landowner views of fire and fuels management

Conclusion

I set out to investigate if and how relationships to place on the Kootenai National Forest contributed to landowner management preferences regarding fire and fuel management in the

Cabinet Mountains. Findings from this mixed-method approach indicate that relationship to place functioned on overlapping geospatial scales, and landowners were able to map and discuss both special places and broader, landscape-level place meanings. When asked to map their preferences for proposed fuel management techniques, most landowners demonstrated that they thought about fire and fuel issues almost exclusively at the landscape scale.

The special places mapped and described by landowners were not strongly linked to their desired fire/fuel management actions. There was not a clear connection between special places as mapped by landowners and the places that they believed were worthy of strategic fuel management (e.g. very few landowners indicated that their private property, as a special place potentially affected by fuel treatments or fire, should be unduly accommodated by managers). It would therefore be unwise for a fire manager on the Kootenai National Forest to attempt to account for forest landowner values in planning via special places alone. However, special places maps revealed a great deal about individual and community relationships to place, and they have already been proven useful in recreation management settings. Special places show us a lot about the range of meanings that landowners attached to particular places on the Cabinets landscape, and the mapping exercise did capture the geospatial location of these special places well enough to produce informative maps.

The management preferences of landowners were closely linked to broader place meanings that landowners attached to the entire landscape. Many landowners explained this overarching, emotional bond by saying that they felt like “stewards of the land.” Landowners framed and explained their fire and fuels management preferences in terms of these ideas about

stewardship as well as their overall relationship to the Cabinet Mountains landscape. Despite superficially similar terminology, stewardship values differed fundamentally between individuals, revealing important differences in how landowners thought about the human-nature relationship, aesthetics, the nature of fire, and appropriate land use. Through meanings, memories, and stories landowners created and maintained two, competing narratives (the working landscape and the natural landscape). It was ultimately these two narratives that divided landowners and influenced their preferences for management of wildland fire and hazardous fuels on the eastern face of the Cabinet Mountains.

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Appendix 1. Sample Interview Guide

Residency and History with Libby Area

How long have you lived in this area?

How would you describe the community of Libby to someone who has never been here?

Residency and History with Private Property

How long have you owned this property?

Do you live on the property?

How long have you lived here?

How much time do you spend on your property? – *for absentee owners*

How would you describe your property to someone who has never been here?

Relationship to the National Forest landscape

Although I have been told that this area is locally referred to as the Cabinet Face, I will not use a place name until they do so. I will explain that I am most interested in the Forest Service lands between Hwy 2 and the Cabinet Mountains Wilderness.

How would you describe these Forest Service lands to someone who has never been here?

What's important to you about these Forest Service lands?

[Use probes here to uncover deeper place meanings.]

How do you use these Forest Service lands?

What do you think of how these Forest Service lands are managed?

Mapping place meanings

Training

So we are going to start the mapping exercise now. First, I will demonstrate the exercise to you, and then let you play around to get the hang of it. In this training demonstration, show me the places on this map of the U.S. that are your favorite areas of the country. This information will not be used later. This is just a practice map. What I want you to really focus on is how the process of mapping works.

The mapping program uses a tool that is similar to a can of spray paint. First you can choose a spray size by clicking in one of the little buttons, small or large. When you are ready to map, place the cursor over whatever area you want to map, hold down the mouse button and spray your favorite areas.

The longer you hold down the button the darker your mark gets. The darkness of the mark measures intensity. The stronger you feel about an area, the longer you hold the button

down (and the darker your mark gets). So for instance, I feel very strongly that western Montana is one of my favorite places, so I hold the button down a long time to really cover that area. But I used to live in Mississippi, and that area is very important to me, but not as much as Montana. So I just spray it lightly.

Now that you have gotten the hang of the spray tool, let me explain the buttons on the sidebar. Press "Undo" to erase your last mark. It will just erase the last time you held down the mouse button. "Erase All" will remove all of your marks from the map totally. Don't press this unless you want to lose all your work. If you want to show that the whole U.S. is your favorite place, you can press "Spray All" to spray the whole map. When you press this button, you then have to type in a number 1-100% of how much the spray will cover. The "New Map" button isn't as important on this page, but press it when you want to map something different on a clean base map. For example, if some areas of the U.S. are your favorite because they are where you vacation, then you might want to put them on a different map from one that shows an area that is your favorite because it's where you grew up. When you are all done, press "Finish" to save your work, finish, and move on.

Mapping place meanings

Now we're going to take all the things we just practiced, and add a new feature, writing and talking about why you sprayed the areas. Although this map will be used for the real mapping exercise I want to just mess around a bit before we get save any of your work.

Basically, spray the areas that are important to you. As before, make your mark darker if you feel more strongly about an area. Now here's the new part: In the box on the right, describe why this area is important to you. We're also going to talk about this, so just write a few words to a couple sentences at most here. This is used by me and the computer to keep track of all the maps you create. Press "New Map" when you're ready to map areas that are important to you for different reasons than you just mapped. It is very important to remember that you should show me areas that have negative, as well as positive, significance for you. Whenever you are ready, we can begin the mapping exercise for real. If you have any questions, stop and ask me at any time.

Why don't you start by mapping _____ (one of the meanings discussed earlier).

Do you go to the places you just sprayed? How often? What do you do there?

[After I suggest 3 to 5 place meanings they brought up in the interview earlier, they will hopefully get the hang of it and keep mapping. I will let them map as much as they like.]

Is there anything else that we did not talk about that you think should go on this map? Feel free to map as much or as little as you would like. Just be sure to create a new map each time the things you are mapping are important for a different reason. And always put a comment in the box on the right.

Views on Fire and Fuels

What can you tell me about the history of fire in this area?

Have you been affected by wildfire or hazardous fuel treatments in the past?

What do you think about Forest Service fire and fuels management?

What would you say has influenced your views on fire and fuels?
Does your land's proximity to the national Forest influence your views on fire
and fuels? What about your proximity to the Cabinet Mountains Wilderness?

Mapping Fire and Fuels Views

Now I'd like you to map the places where you think different types of fuel treatment and fire management are appropriate. I'm going to ask you about three different management approaches to fire and fuels. I'll show you a photograph and description of each one and ask you to map the areas where you think this method should occur. If you feel that a specific treatment should not be used anywhere, we can talk about it but skip the mapping. If you have any questions, feel free to stop and ask at any time.

Here's the first one, thinning (read description).

Where do you think thinning should occur?

Why do you feel that way?

The second one is prescribed burning (read description/show photo).

Where do you think prescribed burning should occur?

Why do you feel that way?

The last one is natural ignition fires, or fires started by lightning strikes. (read description/show photo).

Where do you think natural fires should be allowed to burn?

Why do you feel that way?

Conclusion

Is there anything that you want to map or talk about regarding the landscape, fire, or fuels that we didn't cover?

Do you have any questions or comments about my research project or how this information will be used?

Finally, is there anyone in the area that you think I should interview?

Is it okay to say that you referred me?

Appendix 2. Additional Data and Expanded Excerpts for Select Themes and Subthemes

Data for Chapter 4 - The Role of Spatial Scale

I. Special Places

It is important for the reader to remember that these excerpts are drawn from interviews that were conducted at the participants' home in the forested wildland-urban interface. Landowners frequently refer to their home and land as "my place" and reference their "place" in conversation.

1. Personal Home and Land

Interviewer: So do you have any special places out on the national forest? You're sitting in it. (L17)

That I go or do? No. It's just here. (L4)

I'll tell you a quick, little story. One day when my wife was here was one of the hotter days. About 12:00 I said, I think we need to just go down to the river and go swimming in one of the swimming holes. So we grabbed our bathing suits and our beach towels and everything and the dog and cruised down there, waded across and a little sandy beach on the other side. We're swimming around the swimming hole, laying out on the beach, just kicked back. Basically just taking a nap. About an hour later I looked over and I said, what do you think of this? And she goes, man, it's really awesome!. I said, yeah, and you want to know the best part? And she goes, what's that? And I go, you haven't even left your backyard! Like I said, this is an area people go to vacation, you know. Now you don't even leave your house to do it. (L11)

2. Recreational Areas

That whole area has all the recreational attributes. Well, you've picked, picked the whole east side of the Cabinets, so you've got tremendous recreation potential up there. You've got the Cabinet Mountain Wilderness, several lakes. A lot of it's managed in a semi-primitive roadless and then you've got kind of the rest of it that's a managed forest, if you will, a working forest, a lot of access, a lot of wildlife, a lot of fishing. Kind of a bountiful outdoor opportunity for that piece of real estate, and it's highly diverse based on what your recreational interests are from, you know, biking, mountain biking, hiking the Cabinets, OHV, just driving for scenery. Amazing how many people just want to drive forest roads. (L15)

We snowmobiled all over this country. We were up in Bear Creek, Poorman Creek, all of those drainages back in there, Cherry Creek. And then we were over in China Basin by Troy quite a bit and over in O'Brien Creek.... Well, I would say they're somewhat important to me. I'd like to see it preserved. And we've been all over that country. I liked the scenery and seeing different places. And that was the important part of snowmobiling to us. We had two or three other families that went with us. And we would have cookouts there in the middle of winter and everything. (L21)

When you come into Bear Creek right here, right here is a cross-country ski deal that they made, and I think that's pretty important to save because that's a good winter activity that people really enjoy is cross-country skiing. (L1)

3. Scenic Views

In general I just love it because it's big mountains, lots of trees. I mean, I like the snow. I like seeing, it looks like it's almost completely gone now, but, you know, during the summer I like looking up and seeing a little bit of snow up on the mountains. (L37)

I: So maybe, would you want me to spray this whole area then as being your favorite scenery or spray the road that you like to drive?

L20: Well, I don't know. All I know is that we like to go up. We've taken several people up there, and we have a lunch. Sometimes start a little fire and have hamburgers.

L19: And we spend maybe an hour or two there and maybe pick a few rocks or whatever.

And you just get a wonderful view of the wilderness area mountains.

L20: It's a beautiful view.

L19: Great, gorgeous view.

L22: Scenic value of the Cabinets is important. It's really a beautiful place up there. Well, it's pretty much the whole thing.

L23: Actually, the whole range of mountains over here, clear all the way through, because of the wildlife.

L22: I spent the summer in Scenery [Mountain fire lookout tower] in 1941, the whole summer up there.

We do tell people that we're happy that [our property] borders on the wilderness. That's important to us. We like that. Good view. It's a really nice place. It's quiet. (L8)

Well, it's relatively close to town, but it's still sort of remote or sort of isolated just because, there's nine or ten lots there, and they're all four or five acres, so

there's a limited number of neighbors. And the views of the mountains! And it was a pretty good buy. (L2)

4. Forest Product and Hunting Areas

I think the biggest part about, you ask people why they live here, the hunting is what you're going to get a lot of the time. It's the hunting season, it's the wildlife. And to me, that's a big part of it. I'm an avid hunter... And I like a big trophy buck as much as anybody, but I also eat them. That's a big part of my diet. And a lot of people around here, they live on the elk and the deer and moose, and that's something that's part of the culture. (L14)

And I've hunted, you know, different places. Miller Creek, Horse Mountain. I've hunted many of the drainages so it would be difficult to call a favorite. (L25)

But we like to gather mushrooms and we're both rock hounds. I like interesting rocks. (L19)

L28: The other thing that's really important too is Deer Creek.

L29: Bear Creek or Deer Creek?

L28: Maybe Deep, I'm sorry. It's Deep Creek, we go down to Pioneer Junction, take a left, go back there. And then we just park it and we just walk. This is where we do what we do every day.

L29: The other thing, too, we didn't say is the horn hunting. We just love to go, like when we're ski-joring.

L28: Yeah, we're looking for antlers for anything. Deep Creek has a nice fish or swimming hole in it too. And we did the huckleberries and the service berries.

This is all very important stuff for hunting and for mule deer, good mule deer hunting right up in here. The elk, this Cedar Lake country, they love to go in there in the fall, especially like around bow season there's a lot of wallows in there. And especially if it's a hot, dry year that's a good place to hunt elk. Treasure Mountain, this is good elk hunting any time. Where's Dome? Okay, yeah, right here. This used to be one of my favorite hunting spots right here. This is, when you're in the mountains, there's just a ridge that runs right along there. Big, bad country with, I mean, there's places in there where that buck brush is 12 feet fall. But, man, those elk, they go up in there to get away from everybody. But we always would get down here on, where's Granite Lake, Granite Creek. There's a road here somewhere. Anyway, you get down there, and you just glass up there on that. And then when you see the elk, then you can just go up and chase them. That's the way I used to like hunting. Right now that's the best country, for the Cabinet Mountains that's the best there is. (L7)

There's really nothing you're going to do with [the national forest] except you can hunt it, you know, there's deer and elk, some good creeks to fish. (L2)

II. Landscape-Level Place Meanings

I: Do you have any special places up in this area?

Basically the whole thing is important to me. The wilderness part, not the people's private property, even considering that I live on some. I don't care...the whole thing. (L12)

When I look at it, I'm sort of one of those people where everything is special, I think the whole world is wonderful. (L28)

Well, my place. There's a little sign right there that says "end of the road." It's there when I come home from going out. This is the end of the road right here. This is where everything else gets put aside. There's peace here. There's tranquility here. There's naturalness here. It's designed that way. We make it like that. The backyard has fruit trees in it that were planted by my dad that are this big around and old now. This place is more than just a chunk of ground. It represents my family. And all of the family that comes here, they feel the same way about this. This is home. This is where we live. And it isn't just right here. This little piece right here that I pay taxes on, this is just a very small part of it. It extends all the way up into the Cabinets. It extends all the way over into the Fisher. It extends all the way up into the Yaak... So I've lived and worked all over this, the Kootenai National Forest. I was talking one time with [my friend]. I said, "We're probably two of the only people left that pretty much walked every acre of this forest." I consider this whole forest to be my home. I have special things that I do all over this forest that, traditional things, that when the salmon would run in the Kootenai, I'd go down and snag salmon or I killed a monster buck up in the Yaak one time... This Kootenai National Forest is my home. I know it very, very well. I can't go any more. I can't hardly walk anymore, but I still love it. You know. The only way I have to high country lakes is in my photos. I'm really glad I have my photos to look at. But I can't do much anymore. But still, it's my home. (L7)

For me, and if I was going to pick my special place, that's why I said it's so hard for me to do. You're talking to a guy who loves it all. And I can describe each and every one of these peaks for you, so I... I guess I would say no... I'm afraid you're talking to a guy who's stayed many nights along all of this. I have put man tracks over most of this area. And as far as trying, I would have a heck of a time trying to pick priority over any of it. And why don't I do that? Now for those reasons that we just talked about, for the ecological diversity, for all the different things that make, all of the different components of these areas special actually work, I would have to blot out all of, say that all of this is important. (L14)

All of them are special. You know what I mean? Yeah, I've been on most of, I mean, I've been, in 20 years I've been on an awful lot of trails. I probably haven't seen all 100,000 acres or whatever it is, 90 some thousand acres, I haven't been on all of them, but I've been on a bunch of them. And I utilize the resources in terms of I pick huckleberries, and I hunt, and I fish, and I do all the stuff associated with that. And next year I'll probably be out there picking mushrooms. (L36)

My individual needs have to be put in the background, way in the background. I guess my whole philosophy is boiled down to a point of my needs are pretty unimportant, compared to what the needs of the ground are. Because if I don't take care of the needs of the ground first, then I won't be here to worry about it, because the ground won't sustain us. We're sustained from what we do on it. (L3)

I just don't think in these ways. Because, to be honest with you, I thought that the whole United States is important. I think the whole national forest is important. (L34)

Ch. 5 Alternate Views of the Forest Landscape

I. Working Landscape

Stewardship & Proper Use of the Working Landscape

*How does a community identify itself? Workers would sweat producing materials for a productive society... **Just the culture, that [lumber] mill. I'm just bemoaning. Those things are a relic of the past. But it was just exciting, you know. My parents divorced when I was five. My mom was able to get a job there as a secretary and support a family. Those opportunities aren't there anymore.** Getting back to labels, I wish Libby would...this is what we once were [a logging town]. We'd like to still be a place known for growing trees and having the ethic. We're not going to grow houses; we're going to grow forests. But if we, as a community, said we value this national forest land and the private land as a way to be stewards of it, I wish that would happen. And I think it will happen in maybe 30 years. But it's going to be too late. (L34)*

The stupid thing is that one of the largest timber reserves in the continental United States is within 50 miles of Libby, Montana. We don't have a fricking mill here! I mean, it's just stupid. This is the only renewable resource we have is timber. And they're pissing it away. Yet the demand grows every year. The

hippies aren't stopping building houses. The yuppies, my folks' generation, they're just retiring. They're building bigger houses. They're not stopping building just because they're retired. They're selling their houses off in Malibu and they're moving up here and they're building houses that were five, ten times the size of what they were building down there because it's something they've always wanted to have. (L30)

We're seeing a difference in the culture in the community. We used to have one of the largest sawmills in the state of Montana here. And now, of course, we don't have anything. We used to harvest, oh, probably on an average 250 million board feet off of federal lands. Now you're lucky if you harvest 30 or 40 million. (L20)

Describe it? This is timber and mining country, neither things that I do. But the mills are gone. You're not going to see a resurgence in people moving into an area and setting up sawmills anymore. It's a thing of the past. The mill was the employer for the area. And they were cutting on public lands. There was a supply, a sustainable yield supply of timber. There was a need for timber and lumber, and it's gone now. And it won't return to be what it was. (L4)

Yeah, I mean, the reality is, you know. But what we do might still be here from 100 years from now, the footprint that we leave. And it will take care of itself. We like to think we're important, but we're really not that important. The nature will, God will take care of it and heal it back up from us no matter what we do to it. But I think we need to get further down the road. Like I say, the property here is, I'm the steward of it right now... I'm here to be a good steward of the land. If I'm going to be a steward of the land, then I've got to do my part to try and do what I think is right by the best science that we have at the time. (L3)

L19: There's a certain amount of pride in thinning the forest out and seeing the remaining trees grow and come on and the little smaller trees come on too.

L20: You know, there's a tremendous sense of pride when you open up an area and you see the light coming down into these little trees that otherwise wouldn't grow. So there is a real strong sense of ownership even though it's not yours... And it's too bad more people can't experience that. I think they would understand more... I don't think you can ever educate people that aren't closely connected...to the land, to understand exactly what happens out there and how it feels to be a part of the assistance of it. You can't read it in a book. And I read. I love to read, but you don't get the same feel. You don't develop the pride of ownership, like we were saying, from some third party.

Pride of ownership. That is a slogan that you hear a lot. But it's true... to take care of your own land, that's probably the most important part, taking care of your trees. The first thing I did when I moved here is... Well, it was very

fortunate that in '97, '98 Montana State University's extension program, we had a forestry stewardship class, like Forestry 101. (L24)

You know, in my culture, to take care of this is a responsibility. It's not just something you do. It's what you're required to do, you know... You know, we'd be making the land better. (L7)

I believe [tourism] should be [a part of local economy]. I believe that, and it can be...But it cannot, it cannot sustain, though... The service industry, the service type of jobs that they would provide this culture won't embrace. And that's just a plain fact. (L14)

Anymore now it's just people buying property, buying the land up...that's it. There's no more, everybody that's buying and living in Montana hardly anymore is all retired. People don't care to work anymore. They don't want to work. (L1)

Fire in the Working Landscape

Because it's dead, logging's dead. I mean, you know, the environmentalists got it shut down so there is no management of the national forest. There is none. There is no management. That's why they're letting these fires burn... And it's, well, the reason we're having these fires is because of the fuel load. There's a catastrophic fuel load out there... So it's a catastrophic fuel fire potential, and that's why we're having these devastating huge fires, because of the fuel load and the continuity of the fuel load. (L16)

Well it's gotten too big. I'm afraid now. I mean, if it had been done through the years, you wouldn't have this huge buildup. But we've got a ton of fuel laying out there, and massive trees laying on the ground left and right back in there. It's like pickup sticks. It's just scary...There's so much stuff, you know, just laying all over itself. So it kind of makes you worry that what will happen. What can possibly happen? It's going to burn is what's going to happen. So it makes us nervous. (L10)

And so in those days the Forest Service attempted to change some of the natural cycles to soften those effects. They don't anymore. I don't think there's anything wrong with going in and softening the effects of nature. I mean, a lot of people can say a lot of things. And, like I say, they think the, they're saying that the whole thing is a panacea, you know, going back to letting fires take care of the land is a panacea. It never was a panacea, and it's never going to be. And certainly not the kind of fires that are going on now. (L7)

I think by managing it you can prevent the big disasters that you had in 2000 come through. (L11)

L35: Well, and fire's necessary for the forest, too, as far as some species of trees and those sorts of things. But it's a balance, you know. And with man and women intervening in the whole natural process, it's unbalanced now, I think.

L34: And I think a well-made planned and whatever clear-cut is, could be very similar to a fire. You know, so one side wants to say let's go in and log to prevent fires. The other side might say we'll just let natural things occur and let fire take its course. Well, gosh, why can't you take some material out before you burn it? You know, so to me the subject of fire can be very political. It's almost both sides can use it to their advantage.

Without management in this country, it's all going to burn. And I'm also, I do fire management, and I'm on a Type 1 team, so I get a lot of opportunity to manage the big fires and I have all the confidence in the world that a lot of the green forests that we, as society, believe we're going to maintain, are going to be black forests. And I'd sure like to see some of that go into commodities and not in smoke. (L15)

Fuel Management Preferences for the Working Landscape

1. Thinning

But the Kootenai should be logging at least, oh, probably 75 million board feet a year just to be average. And I suspect that that would help with fuel reduction for fires (L24)

There's one thing that we'd like to see them do is, it's too bad, in a way, that we can't use a lot of that fuel buildup and the small diameter trees and thinning and stuff like that. That's too bad we can't use it to generate power or they're talking about making ethanol out of wood fiber too. If they can do things like that, it would really be a big help in reducing fuel loads on the forest. But it'd have to be at a pretty good, it'd have to be a gigantic scale to really have much effect on the fuel loads on a forest that is this big. But it would be something, it would be a start. (L19)

Like they're talking about this old growth all the time. Why the hell let them rot and fall over? Why not get them out of there and use that for lumber and then let the young stuff grow up? But they don't. (L17)

I think that fire management should be a primary mandate, and thinning should be looked at as a main tool of doing that. And I'd say that's for the entire forest that I hang out in but not the wilderness.

I: Because of the wilderness mandate? Right. Well not just because of the mandate. Because you need some places like that. (L36)

L30: They need to be a lot more proactive. If they don't want to worry about the fire problems, then they need to do something about it.

I: So there should be thinning everywhere?

There should be thinning everywhere. On the one hand I think it's ridiculous to waste that much manpower when they could just light a match and let it go. Yeah, you're going to lose some of the trees, but you're going to lose some of the trees anyway to disease or bugs.

I: And do you think that there should be thinning in the wilderness too?

L30: Hell yeah.

L31: Yeah.

L30: Well, there should be thinning in the wilderness just to keep the rest of the trees healthy.

L31: It's a healthier forest. If you don't manage the forest, you're not managing the wilderness. I mean, at all.

I would say just leave the wilderness out of that. But, I mean, as far as Forest Service land, the other part of it right up to it, yeah, it needs to be harvested rather than wasted. (L4)

I worry about that in our wilderness, of it getting a few more years on it and just burning off. And people that are wanting to have a beautiful spot to go to not having it. So the whole map is acceptable for thinning.

I: So thinning should be a tool that could be used anywhere on the landscape including the wilderness?

Well, yeah, including the wilderness, if we get to the point where it's going to preserve it for us. Preserve it; here I'm using the word. If it's going to maintain it in an acceptable fashion. I don't want to see logging roads and skidders up here in the wilderness any more than anyone else. But they're not going to be up there anyway, it's too steep. But I'm worried that we don't have any way of trying to help Mother Nature along. You can't plant a garden and let it go. I mean, it doesn't work. And we've got a forest out here that Mother Nature's planted, and then we're trying to let it go, and it doesn't work. You've got to get out there and do something with it now and then. (L3)

2. Prescribed Burning

This is a different area, but I criticize the prescribed burns they did up the Kootenai River along the reservoir. Maybe the idea was to open it up for the [bighorn] sheep and whatnot. But they killed so much pine up there. Why in the

world didn't they get helicopters in there and salvage that dead stuff? I hate to see good timber go to waste when we have so much demand for building. (L22)

I've seen where it's gotten away with them and really destroyed. I've seen that across the river for the goat, sheep range. And it still looks like heck, and that's been years ago where it just . . . Then I wouldn't, I'd hate to see that...I'm afraid that it would, might get away on them. I don't have much confidence in that really. Then it could destroy so much. (L27)

No, I don't think it's acceptable everywhere. But I do think that it's part of forest management. It has to be. And I think that's when we have our "powers that be" make their decision. And I think if they don't, why then they'll be hearing from the public about it.

I: So you kind of feel like that's sort of the decisions that are best left to the experts? Yeah, uh-huh. Yeah. Like I say, you have to leave it to some of the logging contractors and so on. I realize that, because, you know, they're doing the job, and they have to, they're accountable for it, so they have to do it. (L21)

I think it's wasting resources. And in wasting the resources, you also allow the ground fuels to accumulate and so when you do have the fires, they're just that much worse. (L4)

I've seen some of the prescribed burning. I'm not real crazy about it. Some of what they burn off in their zealousness to create habitat and then they kill everything there. And it's like, well, that didn't do us a lot of good. (L3)

3. Wildland Fire Use

Why not utilize the fuels and harvest them versus waste them?

I: So allowing lightning-caused fires to burn is unacceptable?

Unacceptable everywhere.

I: Including wilderness?

R: Yeah. Well, what you have in all those areas is useable products, commodities, you know. And why should we be buying timber? Fiber right now is not a micro market anymore. It's a macromarket. There's fiber coming in from Russia, from all over the place. And why not capitalize on what we have versus allowing it to burn? The results are going to be the same, because they're gonna go back and burn slash piles, take care of beetles, that kind of thing. We allow standing beetle kill and we allow fire kill to sit and stand. After two years it's worthless. It just generates more fire is what it does. Put it into the economy. Put it into the system. Make it work for you. (L13)

I do not believe that the let-it-burn policy, as far as overall, it's, we can't afford to do it. When I said there's no place I wouldn't have it implemented, in many of these places there needs to be a certain amount of fuel reduction before we can reintroduce fire. I believe that we made a mistake by putting out all of the fires for the last 100 years. We needed to let fire do its low intensity burns for the ponderosa pine. It's dependent upon it. We needed to be keeping the ladder fuels down and using that tool. But, on the other hand, letting it just burn, the risk isn't worth the reward in some places. We're going to have a couple places where maybe it is going to help, but it is going to hinder more than it would help in our current condition. (L14)

Totally unacceptable for any area, because all that timber should be being harvested and very little of it is.

I: And why would you not want the wilderness to burn?

Well, because we're setting this aside for the generations to come. And I want it to look green and beautiful. I don't want it all, the whole works charred. Well, put it this way, if they don't start logging in the areas where they can log, then the Forest Service would be totally irresponsible not to put out fires they knew that were going to be catastrophic. I think it's unacceptable that they allow them to do that and not suppress them. (L24)

Unacceptable for the most part, unless there's a problem and you need to go in and do some surgical treatments in the wilderness. I think that the wilderness needs to just maintain like it is. You don't disturb it as far as the wildlife. You don't go in and do the thinning. You don't go in and do the burns. They happen naturally. And the difference from my standpoint is that I don't want you to thin and prescribe burn and stuff like that. If there is a fire, I feel that they should not be told you can't go in and get rid of the fire. So man can step in which, to me, seems contradictory to the other part, because I don't want you to go in and thin, I don't want you to go in and do prescribed burns. But I think that man should be able to go in with whatever resources are necessary and put it out. And the least impact is if you've got a lightning strike and you can strap parachutes to their ass and send them in there to ground pound and get rid of it, that's fine. Dump water. I don't know all the ins and outs of what's in the retardant. I'm assuming that it's safe environmentally. And that's fine. I don't know that I want to see the bulldozers knocking out fire lines in the wilderness. But some of this stuff can get out of hand enough to where that's what has gotta happen. I don't want the forest to burn. It's a waste. So that's where I'm coming from with this. (L4)

I think allowing fires to burn in the Cabinets would be unacceptable. I just think it would be unacceptable. I think that we can get up there. I can understand way up high where we can't get to. But I really think that for lightning strikes, we should try to put it out if we've got the resources and everything. And I guess it gets back to we have to manage our forests. And if we're managing, we don't

depend on lightning to do the job for us. That's really important to me... I'm just thinking about here where we're looking. I think that if we can get to it, I think we should definitely try to put it out and manage. Again, it gets back to managing, you know. It's no different than me with my little farm. I need to manage it. (L27)

I would say it's a mismanagement concept to not take care of a fire in our natural resources. That's mismanagement. I don't even, I wouldn't even let brush run rampant down below even though I don't use the brush. If I want to do something with the brush, I'll cut it and bring it up and maybe pile it and burn it. But they wouldn't allow prescribed burning in the wilderness. And so I would say we need to deal with those wildfires in our wilderness and parks areas. Look what happened in Yellowstone. Raised hell! We have the facilities to manage now, and so for all purposes our wilderness areas are areas of mismanagement, because there's no management. Leave it alone? Really, it's more precious to me than that. That's pretty precious stuff. So why should we just let it recklessly burn? (L25)

II. Natural Landscape

Stewardship & Proper Use of the Natural Landscape

Well there's like two different kinds of mentality here. Some people, the older loggers and stuff, they want Libby to stay the way it is. And some people want Libby to turn into a community area or recreation area. Some of the people don't want it, and some people want it. So it's just kind of a struggle going back and forth the direction they want to go. (L33)

I think [Libby] is changing right now. It used to be, of course, the mining, logging which it's not as dependent on that anymore as it used to be. Kind of gone a little more towards tourism. More retired folks moving in or folks from other areas that sold property and maybe not working anymore. They've made money in California or something, sold their place, coming up here to get away from it all. But I think it's becoming more well-known, you're starting to develop more. (L8)

I think that there would be a lot better land that I would feel less guilty about [living on], but I think that, in a way, we can make it work here. I mean, it's already here [her house], and I'd rather us be here as stewards than somebody else be here as a taker, you know, ready to shoot anything that comes on the property. We'd rather have more of a communal outlook with nature. And so, I think that we'll probably add a good vibe to the land. (L12)

And I just look at [the national forest] as it's everybody's land. It's not, you know, it's not just ours. And we're only lucky enough to live here for a little while. We realize that as we get older, you know. You really, you don't own the land. It's just a chance to care take it for a while and then pass it off hopefully to somebody else who will take as good a care. And that's kind of, you know, the way, our philosophy, especially after the farms that I inherited. It was really, you know, selling them back to someone who would take care of them as a farm or not divide them up and put a development there and that kind of thing is really important to me. So I don't know. I just think we all have a responsibility to try not to wreck what we have. Try to leave it at least as good as you found it, if not better. (L10)

My vacation is clearing trails and building [bridges]...in the backcountry. And I don't look at it as work. I just look at it as I enjoy being out there and trying to improve it and just make a little better place than when you got into it, you know. You've got to give something back. You just can't always take. It don't work doing that. (L16)

Well, back to another plan that I had. Montana's missing their best. I've got mine so it doesn't matter whether anybody else ever gets their little piece of it. The entire state of Montana is now the country's largest national park. And you put everybody to work down here. Nobody has a reason to not work, because you're going to cater to all of this tourist thing. You don't have to change it. I don't want doodad shops. What you want to do is develop this so that people can drive through here, not on new roads, the roads are already here, and can enjoy. And the doodad shops just come along. And Montana would have more money than they know what to do with. (L4)

I tell people that this is a beautiful place to recreate, to live, to relax. It's very therapeutic... I found this place and this place was my dream place. It had everything that I was wanting in a place. It's our little piece of heaven, you know, literally. It's a beautiful piece of property. But I describe my place as, you know, it's a little piece of heaven. It's basically wild land but close to the city. And I'll tell them I have so many advantages. I have one of the most incredible views of any place in the Libby area, perhaps even in Lincoln County. But if you want the classic view of the Cabinets, this place has it. Plus it has Granite Creek running through it, and, you know, you can't beat it. It's just absolutely almost indescribable. (L18)

It needed to have a view. It didn't have to have a "view" view. Isolation was number one, definitely, because we had lived with the neighbors from hell in Spokane, you know... Water would have been nice, but being alongside, that was a plus... Pretty much just the isolation, just to be in the wilderness, just to have your dream of living in the country and have it unspoiled by seeing somebody else

in your peripheral vision. Just really kind of that whole little log cabin in the pines, the way the pioneers had it. So we didn't know if it was possible, but we lucked into it. (L10)

And it's just, I love to see the trees, you know, for the simple reason is that, as far as the environmental part of it goes on trees, you know, that's just more oxygen. You know you're feeding the earth. But we really like it out here. It's just way better than town. (L1)

Fire in the Natural Landscape

L9: I just don't feel so fearful [about fire]. And if I look up and see some burnt [trees], there's some beauty there, too, so it just doesn't really bother me. And this is just a house. If it burns down, we'll build another one. I mean, there's nothing, you know, it's just not going to be anybody's fault or anything. It's just probably going to be a lightning strike, and it's going to burn. Yeah, so I know someday that's going to burn. I don't know if I'll see it, but I know it's going to burn. It's inevitable, because it's natural.

L8: Conditions will be right someday.

I mean, you can have fires, you can have earthquakes, you can have tornados. No matter where you live you're going to have something. Fire's just another part of the game. Just use common sense, you know. And overall, if you do have the fire, just remember it's all just possessions. You're born without any of it, you can start over again. Don't try to die saving them. (L10)

Again, if you live out there, you know, you need to be cognizant of the fact that you're liable to be burned. And, you know, you become a part of the forest so you have to live by the forest. That may be a little bit cruel, but be that as it may. I do not believe in suppressing a fire just because of some small group of people that decide to go out into a forest. To me, that's illogical. I think fire is a natural part of the ecological cycle and should be allowed to, you know, go its course. So I have no problem with controlled burning or letting fires go their own way. (L18)

I've always told people, I said I don't care if this whole forest burns down. When it burns, my house is still going to be sitting here and I'm still going to be able to live here once it's over with... For me, I just don't have that affinity or attachment for things up here. (L37)

Fire is a natural part. We should have been letting it burn a little bit up a little bit every year. Now we have a fuel problem, and anybody who works out there has known that for a long, long time. And the question isn't if, but when we're going to do a clean. And how hot, how huge, you know, we have 500 to 600 tons of debris to the forested acre now... We've interfered with it for too long. You know, we've been fucking around in there for 100 years, 120 years. And just stepping

back right now and saying have at it, nature, is not the right thing. We need to do some mechanical removal and reintroduction of fire. (L6)

[Growing up here,] I just remember fire. It's a normal, natural thing. I think we've created an artificial fuel situation by suppression over the last 100 years or whatever it's been. And our logging practices and all that. (L2)

Fuel Management Preferences for the Natural Landscape

1. Thinning

I think where you have the true forest, the wilderness area, I think it needs to be left alone as is. It should not be thinned. Allow nature to do what nature does. As you get out of the wilderness areas into populated areas, I think thinning, simply because you do have people encroaching on the forest, I think you do have, it's economically the right thing to do to thin, to offer some degree of protection. I think we have to do that. You have to protect, I think, the roads. You have to protect your water supply, things of this sort. So the caveat, yeah, I'm all for thinning if it has to be done. If you can demonstrate economic feasibility to do it, okay. Where if it's really just somebody wants it done for the sake of wanting it done, no, that's not good enough. (L18)

I think it is not acceptable everywhere. We should have some of our forest that's still natural. Up in them areas where you got your lakes and your creeks and all of that. Well like out here, I go up there and walk around, and it's all natural, up there in the wilderness. Other than that, down lower and things, they should clean it up like they did out here and have a good healthy forest. And if people want to know what the old stuff is, there you got it. Walk up there, and you're in the natural. So that's my way of feelings about it anyway. (Herman)

L8: Well, the wilderness, I want to leave it as wilderness. And then the outer areas there is getting closer to the populated areas, so that you can start managing.

L9: Well, and then something to talk about, there's roadless areas all up against the wilderness. So in order to manage the fuels do you have to build roads? And roadless designation, my understanding is once they build a road . . .

L8: So this area here actually is a roadless area. So that's another phase that is not quite as unacceptable, but it's an area that still is unacceptable...

L9: Yes. And so I believe once you build a road that's screwed.

L8: It's a protected area by its roadless designation.

Yeah, it's just, I'd just as soon they didn't get in there too much just because what it could do to water quality. And let's see, I think some of this down in here wouldn't really be, it wouldn't be good either, just because of the soils there are

pretty thin. The same over here and in Barren. As thin as those soils are, it just wouldn't be, you'd just, you're not doing, you'd do more damage than you would anything else if you got in there. So that's basically those. (L7)

I have a really hard time with thinning by machine in that I have little faith in the system. And so I wonder what that really means to the animals and to the rest of the terrain when they go in and thin. The idea of it I think is probably nice. But I wonder what the reality of it is... I'd say it's unacceptable. Just as in general thing. I mean, I don't have specific places. And I guess when I say that, I'm not necessarily against the thinning if I feel like it's done right. But I'm not saying that I know how to do it right. I just see that a lot of situations where especially when a lot of machinery is brought in the land is destroyed, the animals are destroyed in the process and I just don't have the confidence that it's going to be done right. (L29)

2. Prescribed Burning

Unacceptable

I consider it all unacceptable. I don't think, well, I mean, unless it's a year when it's moist. And then I don't see a problem with it anywhere, as long as you're doing it late enough in the season and it was a wet enough year. I consider that, I consider let burn an absolutely acceptable tool. See, I believe that fire toolbox should be as big as you can have it. The more tools you have in there, the better. The more prescriptions you can write, the better. And so I wouldn't rule anything out under certain conditions. (L7)

I've seen some of the prescribed burning. I'm not real crazy about it. Some of what they burn off in their zealously to create habitat and then they kill everything there. And it's like, well, that didn't do us a lot of good. (L3)

L19: We're not opponents of prescribed burning.

L20: Except as it affects the animals. It does upset me when you see the animals running from the fire zone. And we have.

I: And that bothers you that it was a man controlled fire?

L19: Uh-huh, right. They don't seem to consider the fact that there are the animals, certain ones that can't get out of the way. You know, it isn't always as feel good as they'd like us to think it is.

And, well, I pretty much think it's all very unacceptable. I'm not really . . . And more so even near the homes. So let's just go with that, because I'm not, like I said, I'm not really a big fan of the prescribed burning. I mean, again, that gives a human element is the one doing the prescribing. They can't be trusted. (L12)

Acceptable

Yeah. I think it's good too. I'm totally acceptable with that... I'd say it would be acceptable everywhere except in the Wilderness...Again, it's just leave the wilderness alone, even though I recognize it's a good technique, and certainly for habitat enhancement. But again, let nature take care of the wilderness. (L18)

There again, they ought to take their thinking from the Indians way back when. The Indians set stuff afire every spring, and they had a good, healthy forest and grasslands for the animals. Had lots of animals. Well now they're going to do that. When I first started out here, a bird couldn't of flew across this goddamn mess up here. There was no animals here. We never seen animal one. Now, like I say, they're here all the time. So, yeah, I'm really an advocate of prescribed burning. You bet. (L17)

Yeah, to me that's just simple common sense, because we're going to the opposite extreme. We're putting the fire out. So we got to replace it with something. And prescribed burning or controlled burning is the way to replace it, and it works. You're not going to get into the situations where you have these massive, huge, hot fires. (L10)

I think it's acceptable, but not a great deal. But I think it should be done because it's replenishing the forest, you know. It's putting new growth in, getting new stuff in, you know. It's kind of like if a person gets too old, get rid of that person and get somebody younger. (L1)

3. Wildland Fire Use

Well, it's certainly acceptable in the wilderness area. I think it should be acceptable outside the wilderness area, but I recognize when you get into population density, you know, they, you have to, you know, you have to consider your demographics in there. I would like to see fires allowed to burn themselves naturally. Unless you get to a point in economics where, hey, we need to do something else. Does that make any sense at all?

I: So when you say economics, do you mean immediately if the fire is costing too much?

If the fire is fixing to devastate some resource, and obviously if it's coming towards the town, you've got to protect the town, you know. But other than that, pretty much let it go. (L18)

I don't think that, you know, I think it just needs common sense, like anything else. You got to take into account everything. Like I said, I'm sure there's studies pointing in both directions where you need control burn and the studies pointing

to where you don't need control burn, you just let it go natural like it did before all that existed. But, then again, like I said, before all that existed there wasn't all those people living here either. (L10)

L30: Yeah, if it would help them achieve their management plan of getting rid of the underbrush and shit

L31: I wouldn't want let them burn the whole forest down, but if it's . . .

L30: And I wouldn't want them to burn, and I'm not saying burn the whole forest either.

L31: I'm not opposed to some of it burning, because it creates more habitat. I wouldn't want the whole thing to become black sticks.

L30: It wouldn't take but a couple years, it'll start turning green again.

I don't want to see any wildfire left that's going to endanger homes and people. If you had a lightning strike up here on Hoodoo Mountain and it come down this way, if possible it should be stopped before it gets into the valley and we don't want to be like California and all the homes they burnt up there.

***I: So lightning fires are unacceptable everywhere on the map? Does that include the wilderness?** No, in the wilderness area I don't know that I'd want that for the most part. What I've seen of fires up there, if they stay up there, they aren't doing all that much harm. It's just nature's way of doing things. I don't have any problem with letting them burn where it isn't commercially feasible to log and where it isn't endangering the general public. (L19)*

I have no problem with burning as a practice. That's necessary. It's natural, and it needs to be utilized in their time and places. I guess I get a little bit put off by people who go out into the forest and they want the forest managed like their township, you know. To me, if you are fortunate enough to go out and have a place in the forest, then recognize that you are in a forest. And you adapt to the forest, don't make the forest adapt to you. That's kind of been my philosophy. Yeah, and I think that's appropriate because fire is a natural part of the, you know, ecological cycle so I have no problem with it at all. (L18)

L34: Well there's places here that could stand to burn, I think.

I: Why do you think they could stand to burn?

L35: Let nature take its course.

I think the general population needs to get through their head that this is a natural thing. That lightning happens...I mean, when lightning strikes in the forest, it's going to burn. And the only reason why it's not going to burn is either the natural things are going to happen, you know, whether it rains or whether it blows the wrong way or whatever. Or we're going to try to manage it. And frankly, in my opinion, in the past, we've been very poor at managing it. We've, we haven't figured it out and really managed it very well. So to me, I think that

they can let them burn wherever. But I do think that it's, you know, the objective is to try to protect people's houses and possessions and things like that. I don't think it's at any cost. I mean, I don't. I don't, to me it's terrible when you hear that a firefighter loses his life trying to put out a fire in the middle of a forest. I mean, you think about that. You think is that really worth it to have somebody die to save acreage of land, of stuff that who knows how many people will ever even see in their lifetime? You know, it's like . . . And, again, to me those are always monetary things, because it's the people that are, whether they are the loudest or whoever is that they're looking at it going, "You just let 50,000 acres burn of trees that we could be selling and makes so many million dollars worth of board feet of lumber that we could have just logged out of there, and it would have never ever burned. You know, if we would have logged it, it would have never had a chance to burn." But to me that's not right. It's a natural thing that happens. (L37)

Well, I don't know. That's an interesting question. I would think like years like this, suppression maybe is, should be more, you know, aggressively pursued. But like on a more normal year I would say, yeah, I think maybe, depending on the area, that maybe it's time to start allowing some of that to happen, to let nature kind of heal itself or put itself more back into a natural state or what I think is a natural state.

I: And that includes the wilderness?

That includes the wilderness probably more so than not. You know, although, shoot, you know, I'd hate to see a 1910 thing happen. The whole thing's black....The wilderness one's a tough issue with fire, I mean what you do. Do you let it burn because of what we talked about, artificial conditions created by us intervening or what, you know? But that's a tough issue. And none of us want to see it black. Black is not a good thing, especially when they're burning as hot as they're burning this year. It will take a bazillion years to grow something back there again besides mushrooms... I think, for the most part, that's probably not a bad idea within reason, just because to allow it to start becoming more of a natural occurrence but years like this, I mean, we might want to pay a little more attention just because it can blow up and get so big so fast. (L2)